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Charlotte Medical Journal.

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VOLUME 23.
NUMBER 1.

Charlotte, N. C., July, 1903.

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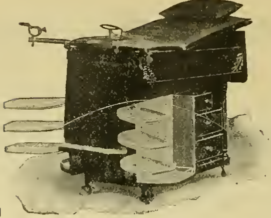

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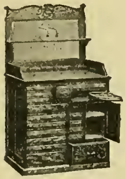

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The Charlotte Medical Journal.

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Hydrotherapy.*

By J. C. Walton, M. D., Chase City, Va.

Mr. President and Members of the State Medical Society:

I regret that circumstances have caused my removal to a sister state, but I assure you that this Society shall always come first in my affections and esteem, and I shall endeavor in the future as in the past, to be a regular attendant at its meetings.

Having been a member of this Society since 1879, almost a quarter of a century. I take this opportunity, gentlemen, to thank you for the uniform kindness and courtesy you have always shown me, which will always be cherished as one of the sweetest memories of my life.

The short time at my disposal will only allow me to allude briefly to a few of the many important practical applications of Hyrdotherapy, and I regret that space will not allow discussion of this most important branch of therapeutics from a physiological and scientific standpoint. Unfortunately hydrotherapy is in the lay mind, always associated with cold applications, and a prejudice or fear is engendered, of taking cold, rheumatism, etc.

Hydrotherapy includes the application of water in any form, from the solid and fluid to vapor. From ice to steam, externally and internally. The use of hot water as an aseptic in surgery, as a resorbent in gynecology and surgery, in gastro-intestinal and catarrhal diseases, meningitis, rheumatism, etc., render hot water as useful a therapeutic agent as cold water. Hydrotherapy, like all other medical agents, should be used intelligently, and with the greatest care and precision, with minutest attention to every detail.

Water is the most flexible of all known remedial agents, and when we reflect that it can be administered at temperatures ranging from 40 to 110 degrees and that a change of 5 degrees in temperature makes a marked difference in its effect, it is apparent what an enormous latitude is offered us in grading its effects on the human system.

The effects of water are due chiefly to its thermic and mechanical action, and its irritating effect on the neuro-vascular cutaneous system. We have three methods of using it,—by changing the temperature, pressure, and the duration of its application. When water is given under a pressure of 10 to 30 lbs. its effects are very much enhanced, and reaction is very much more prompt and decided. Duration is also very important. Dip your hand into water at 40 degrees for a minute, remove and dry it, and the skin becomes warm and red and feels pleasant. Dip the other hand into the same water for three minutes, remove and dry it, and the skin is cyanotic, the hand painful, and sometimes elapses before warmth and comfort are restored. An important point is to avoid the effects of sudden shock by too rapid changes from heat to cold. These changes should be very gradual, and the attendant should see that good and prompt reaction is always obtained.

In neurasthemia, anemias, tuburculosis, chronic malaria, and a great variety of chronic diseases, a good simple home method is to stand the patient in a vessel of water 12 inches deep at 100 degrees, and rapidly wash him with water at 85 degrees. Reduce daily one degree, until down to 60. As soon as the skin becomes fairly red, less friction should be used, as the object is to train the organism to produce its own reaction. The dripping sheet is the next step in this neuro-vascular training. Patient standing in a vessel of water at 100, a linen sheet dipped in water at 75, is thrown dripping around him, enveloping his entire body. The attendant slaps and rubs him vigorously on the outside of the sheet, and on the parts that are reacting well throws basins of water at 65 degrees two or three times, still continuing the slapping and rubbing (shivering must be avoided), the parts are then rapidly dried and rubbed until good reaction occurs. One of the simplest and most useful of hydratic applications is the wet compress. To make a compress, take two to four folds of old linen (cotton does not absorb or retain moisture well) measured to the size and shape to conform to the part to be treated, the compress is then wrung out of water at a proper temperature, and is covered with a piece of flannel an inch larger in every direction, and the linen covered by the flannel, is snugly fitted to the parts. For changing two sets of linen bandages and flannels should be provided.

I will describe briefly how to make a chest compress, as they are superior to all other applications in pneumonia and other inflammatory diseases of the chest. Cut three folds of linen of a size to fit the entire chest from the clavicles to the umbilicus, with slits to fit in the axilla, so as to reach above the clavicles and cover the shoulders. One of the linen compresses is rolled up and soaked in a basin of water at 60 degrees, is wrung out and laid on the flannel bandage, and applied close to the chest, this is covered with the flannel and secured by safety pins on the order of the silk jacket. Change the compress every half hour until the temperature is below 99½, when it should be discontinued. The water in the basin should be renewed each time, and the compress rinsed off in another basin before it is rolled up, to insure cleanliness and to prevent furincles by favoring asepsis.

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* Read before the North Carolina Medical Society at Hot Springs, N. C., June 3, 1903.

Ordinarily a temperature of 60 degrees is used. In cases of stupor or delirium a still lower temperature and a dash of cold water thrown on the part before the renewal of each compress. In case of nervousness, excitability and insomnia, a higher temperature than 60 should be used. When the cold or stimulating compress produces chilliness, and the patient does not warm up readily, it is well to apply cold water with friction before using the compress. The throat compress is a very useful application in tonsilitis, and pharyngeal inflammation.

The neptune girdle or abdominal compress is indicated in typhoid fever, gastritis entero-colitis, appendicitis, etc.

As an antiphlogister application in the early stages of congestion, cold compressors indicate as long as the circulation is active and the colon good. When, however, the parts assume a cyanotic hue and leucocytosis has taken place, then change to warm compresses to hasten suppuration, which is then unavoidable. The cold compress diminishes congestion, retards leucocytosis and emegration of the white cells while the warm compress has just the opposite effect.

Having briefly described some simple home methods which every Doctor can utilize, I will merely allude to the best institutional methods for the application of the water treatment. A properly constructed douche room, fitted up with a Richter or Baruch apparatus, with a douche table so constructed as to give water at any temperature or pressure desired, and with additional apartments for dressing and massage rooms. With this equipment any and every kind of water treatment can be given, including the celebrated Baruch tonic baths for the the treatment of neurasthemias, rheumatism, digestive and a great many other disorders.

The Perineal Douche for hemorrhoids and prostatic troubles, and the Nauheim baths, the most efficient of all known treatment for heart diseases, especially in old and intractable cases, which are frequently relieved after all other known remedies have failed.

Space will allow me to report only two cases: Mr. H., age 35, has had rheumatic gout since three years of age. Had been to Hot Springs, Ark., twice for treatment without benefit, and having tried all of the orthodox remedies, had given up all hope. The disease first appeared in the great toe and gradually extended to the ankle joint, both feet being affected so that he walked with great difficulty on account of pain and partial ankylosis, Left shoulder was so stiff and painful that motion was very much restricted, general health fair, except for anemia and uric acid in excess. Treatment: Baruch tonic baths, Static electricity (sparks), massage, and the free use of Chase City Mineral Waters. At the commencement of treatment skin action was very poor, it requiring 35 minutes in the hot air cabinet at a temperature of 175 degrees to produce good perspiration, and would not react to a water temperature of 90 degrees. After six baths, the reaction was good and he could stand a water temperature as low as 75 degrees, and perspiration in the hot air cabinet was free in 18 minutes.

In treating these bad cases, I have been struck with the poor skin reaction, and when the skin begins to respond to treatment, there is a corresponding improvement in the disease.

After eight baths the hæmaglobin was normal and reaction was perfect. In all 12 baths were given, eight massages, and eleven static treatments, and the patient was dismissed as cured after four weeks treatment, and continues well at this time.

Report No. 2: Mr. J., age 27. Severe case of sciatica of six months duration, with a history of acute rheumatism of the left knee joint, uncertain history as to specific trouble. General condition very bad. Weak, thin and ænemic. Hæmaglobin down to 50. Suffered great pain and walked with difficulty.

Treatment: Baruch tonic baths, Scotch douche, and Static sparks. The latter being given very heavy toward the last part of the treatment before the pain would entirely yield. Free use of the Chase City Mineral waters as a diluent and eliminator of uric acid. Dismissed cured after six weeks treatment.

I regret that space will not permit me to report some cases of severe valvular troubles that show remarkable improvement from the Nauheim baths, but I am afraid that I have overtaxed your patience.

I am aware of the fact that this is a very incomplete paper, but my chief object is to call your attention especially to this very important subject, which is growing in interest day by day, for hydrotherapy is no longer a theory, but a well established fact, based on scientific principles, and we cannot hope to hold our patients by the old and cruder methods, for an intelligent clientel are demanding of us newer and better treatment along the lines of physiotherapy electricil, etc.

I take this opportunity to acknowledge my indebtedness to Dr. Baruch for many valuable suggestions obtained while acting as his late assistant.

The Microscope in Practical Medicine.*

By Edwin B. Ferebee, Asst. Phys. State Hospital, Raleigh, N. C.

The field of usefulness of the microscope in the medical sciences is, of course, so wide that it would be impossible to attempt any full discussion of it in a paper of this kind. Being forced to make a selection among the multitudinous data available, it has seemed best to invite attention to the role of the microscope in diagnosis, in other words to a portion of the field of clinical microscopy. This limitation of the subject has the advantage of focussing attention on the side of microscopy that is of most immediate importance and interest to the busy practitioner, and is, besides, a field which need not be beyond his reach. In a little work recently published: "How to be a successful Physician," the author, a Connecticut physician, says that the well-equipped practitioner of the present day ought to be able "to prepare sputum and examine it for tubercle bacilli when with a centrifuge and microscope, it can be done in ten minutes. The blood can be obtained and the haemoglobin estimated in five minutes, and the volume of the corpuscles by the haematokrit in three minutes. Cover glasses may be spread with blood, fixed, stained, and examined in from ten to twenty minutes. The Widal serum reaction of typhoid fever need never take more than thirty minutes, and when pronounced not more than ten." I have quoted this passage to show that the processes in question are not prohibitive either in point of complexity of technique, or in the amount of time required.

In the domain of clinical microscopy we are all fairly familiar with the procedures requisite in urinalysis, and I shall, therefore, devote the greater part of my time to the comparatively newer subjects of the blood, sputum, feces, etc.

THE BLOOD.

Here the microscope, and accessory apparatus, are used to determine quantitative and qualitative variations in the red and the white cells; variations in the amount of haemoglobin; the presence or absence of parasitic organisms, notably the *plasmodium malariae*; and for purposes of serum diagnosis, as in the Widal test for typhoid fever.

The Blood Count.—The purpose of this is to determine the number of the red and the white cells. The method of procedure is as follows: Several hours after a meal the part selected is washed with soap and water, alcohol, and ether, with the least disturbance of the local circulation possible. A puncture is then made, and the exuding blood is sucked up into a Thoma-Zeiss tube. This apparatus consists of a capillary tube dilated in a part of its course into a bulb. After drawing the blood up to the point marked 1.0, the tube is drawn full of a 0.8 per cent. of salt solution deeply tinged with metylene blue, as far as the point 101. This effects a dilution of 1.100. The two fluids are mixed by gentle agitation and a drop is placed in the counting chamber. The latter is an excavation in a microscopic slide, the depth of the excavation being 0.1 mm. The bottom of the excavation is ruled into squares, the space over each square corresponding to 1.4000 of a cubic millimeter. After placing the drop in the chamber the cover slip is to be rapidly adjusted, and, if the preparation is successful, the cells will be approximately evenly distributed. After allowing several minutes for subsidence of the cells to take place the count is begun. Six or more of the large squares are to be counted, the cells lying on the bottom or right hand lines being included. The average per small square multiplied by 4000 (because each small square represents 1.4000 cubic millimeter), and then by 100 (the ratio of dilution of the blood) will yield the number of red cells per cubic millimeter. In practice, however, the computation is simplified by multiplying the total number counted by 400 000 (4000x100) and dividing the product by the number of small squares counted.

The leucocytes are best counted in the same specimen and chamber with the red cells. A special chamber has been constructed for this purpose in which 9 square millimeters are outlined in large squares. According to the abundance of the leucocytes, 3, 6, or 9 square millimeters are to be counted. The average number per square millimeter is then multiplied by 10 (since, owing to the depth of the chamber being only 1.10 mm., the cubic contents per square millimeter is only 0.1 cubic millimeter), and by 100, the ratio of dilution of the blood. In practice the computation would be: Total number counted multiplied by

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* Presented at meeting of the North Carolina Medical Society, at Hot Springs, N. C., June 3, 1903.

1000, and divided by the number of square millimeters counted.

The Differential Count.—The object here is to ascertain the relative proportions in which the principal forms of leucocytes occur. For this purpose the edge of a cover slip is drawn gently along across the exuding drop of blood, and is then applied to the surface of another cover slip and drawn gently over that, leaving upon the second slip a very thin film of blood which is dried in the air and then fixed by immersion in a mixture of equal parts of strong alcohol and ether for a half hour. The resulting preparation is then stained with Ehrlich's triacid stain for 6 to 8 minutes, washed in water, dried, and mounted. To estimate the per centages of the different varieties, at least 500 leucocytes should be counted. The principal varieties of leucocytes are: (1) *Lymphocytes*, smaller than a red blood cell, with a large, deep stained nucleus and non-granular protoplasm; (2) *Large mononuclear leucocytes*, larger than a red cell, with non-granular protoplasm; (3) *Polymorphonuclear neutrophiles*, of the same size as the preceding, with a long, irregularly twisted nucleus, and protoplasm with fine neutrophile granules; (4) *Transition forms* between (2) and (3), with a single nucleus which in its constricted appearance indicates a beginning polymorphism, as a rule no granules but sometimes some of a neutrophile character; (5) *Eosinophiles*, of the size of (3) with large ovoid or roundish, highly refracting, fat-like granules which take only acid stains; (6) *Mast cells* (basophiles), mononuclear or polynuclear with large basophile granules; and (7) *Myelocytes*, large mononuclear leucocytes with neutrophile granules, never becoming amoeboid.

Estimation of Haemoglobin.—In Von Fleischl's haemometer blood is drawn into a capillary tube as for the blood count, and then discharged into distilled water in the estimating chamber, the proportions of the blood and water being determined by the graduations on the tube and on the estimating chamber. This proportion is such that with normal blood the resulting tint would read on the scale as 100. In the distilled water the haemoglobin goes into solution, and the mixed fluid thus becomes transparent. The scale consists of a similarly colored piece of glass, cut in the form of a wedge, which can be slid along until the tint exactly matches that of the solution when the per centage is read off on the scale. The absolute amount of haemoglobin can be determined, given that the normal amount is 14 g. per 100. The test must be made by artificial (monochromatic) light. A simpler test, and one sufficiently accurate for practical purposes, consists in placing a drop of blood on a piece of white filter paper, allowing it to dry, and then finding on Tallquist's haemoglobin chart the shade of color which matches that of the stain.

So much for the methods of blood examination. What is the study of the blood capable of teaching us?

The meaning of Leucocytosis.—Apart from the normal increase in the leucocytes which occurs after a meal, and during pregnancy, a more or less temporary increase takes place in many diseases. In contradistinction to the physiological form, this increase is termed pathological leucocytosis. The determination of its existence is often a matter of great moment. Thus in infectious diseases, leucocytosis usually indicates an exudative or a suppurative condition. It occurs, for instance, in pneumonia, diphtheria, scarlatina, erysipelas and rheumatism. Pathological leucocytosis appears to be a protective reaction against bacterial invasion. Thus in pneumonia where leucocytosis does not take place, the progress is grave. In diagnosis the absence of leucocytosis speaks against pneumonia, in which it is present, as against such diseases as typhoid fever and tuberculosis in which the condition is absent. The presence or absence of leucocytosis is often of great importance as an aid to the diagnosis between tuberculosis and suppurative processes, tuberculosis and suppurative meningitis, and typhoid fever.

Apart from the more or less temporary increase in the leucocytes which constitutes leucocytosis, the white cells are *permanently* increased in several conditions. And in these it is by no means a matter of indifference which particular variety is increased, as an increase in one variety stamps the condition as one disease, while that of another marks the occurrence of quite another pathological process. Thus, in the lymphatic form of leukaemia, the increase occurs in the lymphocytes alone; and in chlorosis and pernicious anemia and some other diseases, this variety is relatively increased. In chronic malarial poisoning, the increase lies in the large mononuclears. Increase in the eosinophiles is observed in most cases of the lieno-myelogenous form of leukaemia, in bronchial asthma, in trichinosis, and some other diseases. Myelocytes are seen in the lieno-myelogenous form of leukaemia.

The various Anaemias.—As regards the condition of the red cells, the blood examination may yield the following pictures: (1) Amount of haemoglobin much reduced, number of red cells little reduced, haemoglobin value of each cell (the *haemoglobin index*, that is) consequently low—the picture of chlorosis. (2) The per centage of haemoglobin and of the red cells low (haemoglobin 15 per cent., red cells 1,000,000), but the reduction approximately in the same proportion, that is, the haemoglobin index about normal, usually an accompanying moderate increase in the polymorphonuclear leucocytes—the condition obtaining in chlorotic anaemias seconto wasting diseases. (3) Extreme reduction in haemoglobin and in the red cells, the former usually below 25 per cent., but the haemoglobin index generally above normal; the number of red cells always below 2,000,000, the cells presenting great variations in size (1 to 20 microns) and the shape, some being misshapen and distorted; absence of rouleaux—the picture of pernicious anaemia. (4) Diminution in the red cells with increase in size and in haemoglobin index, (or, in acute cases, the red cells of normal size, or smaller, with a deficiency of haemoglobin), absence of megaloblasts, that is, nucleated red cells 10 to 20 microns in diameter; usually an accompanying polymorphonuclear leucocytosis—the type of pernicious anaemias secondary to malaria, syphilis, carcinoma, or nephritis.

Examination for the Plasmodium Malariae.—A perfectly clean cover slip is touched to the tip of the drop of blood exuding from the pricked lobe of the ear, and laid gently on a slide, when, if the drop taken was not too large, the slip will adhere to the slide. Under an immersion lens the red cells are seen to contain small, colorless, highly refractive spheres which in their earlier stages exhibit slight but active changes in shape and position, and later (12 to 18 hours after the chill, in the tertian form) active amoeboid movements. As the time goes on the organism shows black pigment granules, the remains of its meal of the haemoglobin of the red cell. In the tertian form at the end of 48 hours its life cycle is completed, it fills the swollen red cell, and divides into 15 or 20 spores which, by the rupture of the red cell, are discharged into the blood coincidently with the chill. Along with them numerous pigment granules are thrown into the circulation, and these are taken up by the leucocytes.

The presence of pigmented leucocytes thus becomes a factor in the diagnosis, and in severe acute cases after the administration of much quinine, in remittent fevers, and in chronic malarial fever and cachexia, the diagnosis often must rest on their presence. In the quartan form the early hyaline bodies are most refractive, their amoeboid motion is slower, the pigment is coarser, and only 6 to 12 spores are produced. The red cell is shrunken instead of swollen. The life cycle occupies 72 hours. The spores of the aestivo-autumnal form closely resemble those of the tertian, but in the plasma they move rapidly with a peculiar rolling and darting motion, and have three or four slightly projecting knobs. In the cell they are slightly refractive, spheroidal, with very active changes of form. After 12 to 18 hours the characteristic signet-ring form has developed. After 24 hours this form tends to disappear from the circulation into the spleen, marrow, or other viscera. By the fifth to the seventh day the fully developed cresents appear in the blood. They measure 9 to 12 micromillimeters in length, a remnant of the red cell usually stretches across its concavity, and the centre exhibits a groud of large, brownish, yellow pigment grains. Segmentation occurs apparently principally in the marrow and spleen from the younger spheroidal bodies which almost always produce 18 spores.

The most satisfactory method of study of the plasmodium is the staining of a film fixed by 30 minutes' immersion in equal parts of alcohol and ether, with the Chenzinsky-Plehn stain (concentrated alcoholic solution of methylene blue 40, 0.5 per cent. solution of eosin in 70 per cent. of alcohol 20, and distilled water 40), for several hours. The films are then washed with water, dried between filter paper, and mounted in balsam. The red cells are light red, eosinophile granules deep red, leucocytes and parasites blue.

The Widal test for typhoid fever is made by adding to a 24 hours' broth culture of the *bacillus typhosus*, one tenth its volume of blood serum from the suspected case. Rapid cessation of motility and precipitation in clumps, indicates typhoid fever. Extremely probable with a 1 : 10 dilution, when a prompt reaction occurs with a 1 : 20 dilution, the diagnosis becomes almost certain. The absence of the reaction does not positively negative the diagnosis, as the New York Board of Health has found the reaction absent in 5 to 10 per cent. of the cases. It often happens that the test must be made with dried blood. In this case it is not so easy to determine accurately the dilution, but it is best to add distilled water approximately in equal volume to the clot, or if only a film be available the test must be made with a drop of water and the reaction be watched in the hanging drop. Retarded and uncertain reactions, as where 30 minutes elapse before a decided response and some of the bacilli remain motile, are unreliable evidence of the existence of typhoid fever.

THE SPUTUM.

Apart from substances encountered in the sputa which are visible to the naked eye, such as elastic tissue, fibrinous casts, Curschmann's spirals, and rarer findings, we are concerned in our examination principally with the presence or absence of elastic fibres, but above all with the demonstration of certain micro-organisms, especially the tubercle bacillus. In every sputum we find leucocytes and red blood cells, and it is only when the latter are in greatly increased number, and particularly when the blood is present in quantity visible to the naked eye, that their presence assumes grave significance. Little is to be learned from the various epithelial cells present, and the same may be said as to the crystals frequently observed. Elastic fibers appear in the sputa as threads of variable length, and a tendency to curl at the ends. Frequently they show an alveolar arrangement. Their diagnostic significance is great, as they indicate destruction of lung tissue, but the finding is only to be regarded as *absolute and unequivocal* where an alveolar arrangement is to be made out. If present in large number it suffices to examine the sputa spread out on the slide with the addition of potassium hydrate solution; otherwise it is preferable to boil the sputum with a 8-10 per cent. solution of potassium hydrate, pour the resulting liquid into a conical glass, and after 20 hours examine the precipitate. The sputum may exceptionally contain parasites of animal nature, especially where perforations from liver cavities have occurred. The principal parasites are echinococcus fragments, and the amoeba coli.

But parasites of vegetable nature are much more important, and of these the tubercle bacillus is *facile princeps*. If present in any number, the detection is comparatively easy. All that is necessary is to place any suspicious looking particle, especially small cheesy-looking particles often found at the bottom, on a cover slip and then laying another cover slip over it, draw the two horizontally apart, taking care to get a very thin film. The cover slip is then passed three times through the flame of a Bunsen burner, or of an alcohol lamp, to "fix" it, and the preparation is stained for two minutes in a solution of fuchsin 1, 5 per cent. of carbolic acid 100, and absolute alcohol 20, after which it is stained one minute in a solution of methylene blue 2, and a 25 per cent. solution of sulphuric acid 100 parts. It is then washed in water and mounted. The tubercle bacilli are stained red; everything else blue. It is where the bacilli are sparser that the difficulty comes in. Here reliance is to be placed upon a multiplication of examinations, and with different specimens of sputa, and upon the method of incubation of the sputa in the warm chamber for one or two days; also upon centrifugalizing the sputa, Only after repeated trials will the negative result carry conviction in a doubtful case, as the bacilli may be absent at one time and present at another. In the determination of the tubercle bacillus, only two possible sources of error are known; confusion with the bacillus of leprosy, which on account of its rarity in America may practically be neglected, and confusion with the smegma bacillus. In specimens from the genito-urinary tract, therefore, it is necessary to attempt a further decolorization for 12 hours in 97 per cent. alcohol, under which conditions the smegma bacillus becomes bleached.

The *diplococcus pneumoniae* may be stained in a cover slip preparation by immersion in 1 per cent. acetic acid, removal of the acid and drying in the air, staining some seconds in saturated anilin-water-gentian-violet, and decolorizing by Gram's method as described hereafter. The diplococci are rod shaped and surrounded by a capsule. In influenza Pfeiffer's bacillus can be demonstrated by staining with a weak solution of carbol-fuchsin for five minutes. The bacilli form rods 1.5 by 0.3 microns, straight with rounded ends which often stain more deeply than the centers. They occur singly or in clump. Besides these forms there are, of course, others which, however, I pass over as of less general importance.

DISORDERS OF THE DIGESTIVE TRACT.

The Stomach Contents.—In this case the microscopic examination is, generally speaking, of secondary importance to the chemical. The vomitus naturally exhibits a vast complex of substances of no diagnostic importance, remains of meals including muscle fibers, connective tissue, elastic fibers, fat, starch grains, many varieties of vegetable tissue, etc. Micro-organisms of various kinds are usually present in abundance; yeast, sarcinae, leptothrix, and bacteria. The principal finds of diagnostic importance are: the presence of blood, which is rarely entirely unaltered; sometimes portions of exfoliated mucous membrane in gastritis; shreds of an ulcerating carcinoma; and, not infrequently, round worms. *Oxyuris vermicularis* and *Anchylostoma duodenale* very rarely occur.

The Feces.—What can the microscope show here? If a fragment of a stool be spread out by pressure on the cover slip, a host of objects will be seen—connective and elastic tissue fibers, muscle fibers, vegetable cells, starch grains, crystals, etc. These are unimportant. Red blood cells and leucocytes are few, and epithelia only moderately numerous, under normal conditions. Very abundantly exfoliated epithelium occurs in catarrhal conditions. Clumps of epithelial cells with adherent leucocytes and blood cells, occur in masses of mucus from ulcers. Fragments from ulcerating malignant growths, may be encountered. A great number of micro-organisms occur, most of them of little significance. The more important are the *Amoeba coli*, 3 to 5 microns long by 0.4 microns broad, rather actively motile, and decolorizable by Gram's method; the *Bacillus typhosus*, 2 to 4 microns long and 0.5 microns broad, with oval ends, actively motile and decolorizable by Gram's method; perhaps tubercle bacilli; the *Bacillus lactis aerogenes*, etc. Of protozoa, we have the *Amoeba dysenteriae*, 25 to 35 microns long, with finely granular and slightly refractive protoplasm, a single vesicular nucleus, and often vacuoles, and containing in the protoplasm bacteria and red blood cells. Segments and eggs of all the tape worms may be found; also fragments of echinococcus cysts and hooklets. Round worms may be encountered, among them *Anchylostoma duodenale* which has lately acquired importance as a prominent cause of anaemia, as shown by Stiles.

STAINING OF THE GONOCOCCUS.

Turning now to the genito-urinary sphere, the only subject that need detain us is the methods of detecting the *Diplococcus gonorrhoeae*, commonly called the "gonococcus." In the male, of course, this organism is usually encountered in the pus from the urethra, and is therefore found in specimens of urine. In older gonorrhoea, those usually pronounced "cured," the gonococcus should be sought by removing any minute shreds which are seen floating in the urine, and staining these. In the female gonococcus has two seats of election, at the meatus urinarius, and in the cervix uteri, and is much less frequently obtainable from the vaginal mucus. The method of detection is as follows: A smear is made on the cover slip and fixed as usual. The specimen is then flooded for 30 seconds with fresh anilin-water-gentian-violet, and is afterward washed in water. It is then flooded for 1 to 5 minutes with Gram's solution (iodin 1, potassium iodide 2, distilled water 300), and again washed in water. Next it is decolorized in 97 per cent. alcohol for 2 to 4 minutes, the process being watched under the microscope and arrested as soon as the nuclei of the leucocytes have lost their blue color. The decolorized gonococci are then counter stained with a saturated aqueous solution of Bismarck brown for 1 to 3 minutes. To justify the diagnosis of gonococcus, the organisms must fulfill three requirements. they must be within the cells, they must be biscuit-shaped diplococci, and they must decolorize by Gram's method.

Annual Debate—Subject, "Lobar Pneumonia."*

By A. S. Pendleton, M. D., Henderson, N. C.

Lobar Pneumonia was chosen as the subject for discussion this evening, not on account of any supposed special knowledge the writer might have, but because it is one of the most common diseases with which we have to deal, and accounts for more deaths than any other acute infection, with a rapidly increasing mortality; because, while every one of us is more or less familiar with it, yet none of us, I believe, think we know all about it; and because I am convinced that every man of you stands ready to help the other fellow with any pointers you may have run across in your experience with the disease in question, and will be grateful to him for any inside knowledge he may have gained from treating the disorder himself.

The Pneumococcus has been fairly satisfactorily proven to be the exciting cause of the disease, and is accepted as such by a large majority of the authorities; but an attack is almost invariably determined by one of the predisposing causes, of which the acute infectious fevers, diabetes, Bright's disease, a previous attack, and exposure to cold and wet are the more important.

Let us not waste time in running over the pathology and symtomatology of the disease in its typical form, as you are all familiar with them; but a few words about the rarer varieties may not be amiss.

When only the apex of the lung is involved, there is usually very little pain, while the cerebral symptoms are much more marked than when the disease attacks the base. The cough is often slight and the sputum not typical. When the consolidation is in the centre of the lobe, the diagnosis is exceedingly difficult, in fact, I doubt if one is ever made till the periphery has been reached by extension of the trouble.

Double Pneumonia differs only in involving more air space and in being more often fatal.

Pneumonia of old people and alcoholics is usually insidious in its onset, the temperature runs a lower course, there is not much cough, the sputum is not typical, and often there is practically no pain; while the toxaemia is more pronounced and muttering delirium develops early.

After the administration of an anaesthetic, the disease frequently appears—a fact that it is well to bear in mind, otherwise the symptoms might cause you to suspect infection at the seat of operation.

Resolution may be delayed for weeks,

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becoming a source of danger and discomfort to the patient and of annoyance and anxiety to the attendant. Occasionally the exudate becomes purulent and a pulmonary abscess forms—a condition difficult to determine, until the pus ruptures into a bronchus or the pleural cavity, some authorities to the contrary notwithstanding; though the usual hectic symptoms (chills, irregular fever and sweats) are generally sufficiently pronounced to very materially aid in the diagnosis.

When the patient is greatly debilitated, and especially when suffering from diabetes or Bright's disease, gangrene is liable to follow the attack. The prune juice sputum, lowered temperature, offensive breath, and profound toxaemia will point out the condition when it arises.

In making a diagnosis in an individual attack, we are influenced by the following circumstances: the age of the patient, previous habits of life and health, the amount of toxaemia, the temperature, and the heart's action.

The disease is especially fatal to infants and old people. Strangely enough, the mortality is less during the first year of life than during the succeeding four. The mortality from the first to sixth years is variously estimated at from 25 to 40 per cent; is least between the ages of 15 and 40; then gradually increases till the seventieth year, after which it is between 80 and 100 per cent. No other acute infection is probably influenced so much by the previous habits of the individual. When the patient has been a high liver, and has used alcohol for years, his chances of recovery are indeed slim; while one who is suffering at the time of the attack with diabetes or Bright's disease, will almost surely succumb. Pneumonia following influenza also seems to be especially fatal.

In the experience of the writer, it is the low temperature (that ranging from 100 to 102 degrees F.) which should be viewed with suspicion, particularly so when accompanied by a disproportionately frequent pulse; while of course, very great hyperpyrexia augurs ill for the patient. Where the temperature runs between 102½ to 104 degrees F. the patient is generally doing well.

The heart's action is the best index to the patient's condition since it is affected by both the toxaemia and the mechanical interference with the circulation. Given a full bounding pulse, not over 125, with little or no cyanosis, and we are satisfied that the disease is progressing favorably; but, when the pulse becomes very rapid, weak and thready with increasing cyanosis, a speedy dissolution may be expected; though, sometimes, a patient is apparently rescued from the very jaws of death, and it is in the condition just described that the greatest discrimination and judgment is required of the attendant.

It is to the treatment of Pneumonia that your attention is especially called. This may be divided into

(1) Hygienic and dietetic.
(2) Specific.
(3) Symptomatic.

(1) The patient should not be bundled up in too many clothes, and should be placed on a bed provided with a mattress (preferably one made of hair or felt), which is in a large, well-ventilated room with plenty of sunlight. The same care should be exercised in the disposal of sputa, dejecta, soiled clothing and bed clothes as in any of the other infectious diseases. A tepid sponge bath daily refreshes the patient, makes him more comfortable, and tends to keep down the temperature.

The diet should be liquid, and for this purpose nothing has been found better than milk when properly modified to suit the individual case. Koumys and buttermilk, together with broths and albumin water, may be used in conjunction with the milk, or, to vary the monotony, an egg-nogg once or twice daily may be allowed, if it is found to agree.

(2) Of the specific measures, the one from which we would naturally expect the most, we have so far obtained the least results; that is, from the use of anti-pneumonic serum. No appreciable change in the course of the disease after its use has been observed as yet. The fact that Pneumonia is almost always due to a mixed infection accounts for this. Veratum viride, tartar emetic and digitalis have all three been exploited as specifics, but their use in many cases has not proven the claims of their supporters, and we find ourselves today no better off, in so far as a specific is concerned, than our brother of a hundred years ago, and are compelled to combat the symptoms as they arise, preparing for some before they actually appear, being warned by previous experience.

(3) For the pain, morphine, preferably hypodermically, is certainly the best drug, though ten grains of phenacetine may be given for the headache and backache which usually accompany the initial chill. At this stage of the disease it can do no harm and is often very grateful to the patient. The headache may be controlled later by the application of an ice cap. A mustard plaster usually relieves the "stitch" in the side, though it sometimes becomes necessary to administer morphine to control it Either wet or dry cupping will sometime

relieve this symptom. The application to the chest of a preparation, composed of Kaoline and glycerine, and known on the market by several names, one of which is antiphlogistine, has added greatly to the comfort of my patients. It has been claimed that this preparation aborts a large per cent. of cases when applied early enough, but my own experience with its use does not verify this statement, though it certainly seemed to make the patient much more comfortable, and the effect obtained in the fifteen cases in which it was tried was such as to justify its use in the future. The preparation, on account of its hydroscopic action, absorbs fluid through the skin and is therefore a local depletant. The effect obtained from it in the stage of congestion is particularly happy.

The ideal method of treating Pneumonia would be by neutralizing the poison in the blood with an antitoxine, but such a one has not as yet been discovered, nor do any of the drugs with which we are at present acquainted, seem to have such an effect. Alcohol, however, when administered in proper quantities, does increase the bacteriacydal power of the blood, and so tends to retard the multiplication of the pneumococci, beside stimulating the heart and acting as a food.

During the first twenty-four hours veratrum viride may be used to steady the heart flurried by the load suddenly thrown upon it.

When death comes, it is almost always due to heart failure, and it is to stimulants that our attention is particularly directed.

Alcohol, in the form of good whiskey in quantities of from 4 to 12 ounces per diem, is perhaps the best stimulant to rely on in all cases, and its action should be augmented by the use of digitalis and strychnine when necessary. The latter is especially serviceable in tiding the patient over an attack of failing circulation. The use of the deci-normal salt solution has heretofore been left for emergencies, and wrongly so in the humble opinion of the writer. The withdrawal from the circulation of a considerable quantity of serum through the skin, by means of the mixture of Kaolin and glycerine mentioned before, or directly by venesection, through the bowels by cathartics, and the kidneys by the use of diuretics and water, and its replacement by hypodermoclysis, transfusion, or rectal injection of a saline solution is surely good treatment from a theoretical standpoint, and following this plan in five cases has certainly given very satisfactory and encouraging results, clinically. As the serum contains the toxine, the removal of a portion and its replacement by the salt solution dilutes the poison in the system and so increases the patient's chances of recovery.

Introducing this solution into the circulation by hypodermoclysis is not difficult, nor is it attended by any danger, when done with due regard to cleanliness, and all the instruments required are a steril fountain aspirating syringe and a long needle together with some steril water and salt. It would therefore seem that we are wrong in postponing its use till the condition of the patient becomes exceedingly grave, as has been the case heretofore.

Whether rapid heart failure is due to the obstruction to the pulmonary circulation, or to the heart's being overwhelmed by the poison in the blood, is a disputed question, but we know that it is nearly always the right heart which gives out first, so, when confronted with a weak, rapid, thready pulse and rapidly increasing cyanosis, we should at once relieve the venous circulation of from 16 to 20 ounces of its load by venesection and dilute the remaining poison by transfusing a pint or more of salt solution. Large doses of strychnine and digitalis should be administered and oxygen used, It is very probable that we do not bleed often enough in Pneumonia. Strychnine may be used with advantage throughout the attack, if begun in tonic doses and increased as occasion may require.

In my own experience, citrate of potassium has proven itself to be the most satisfactory expectorant when used in conjunction with the alcohol, besides being a mild diuretic. When there is a malarial complication, quinine becomes necessary, but should be discontinued as soon as the plasmodium is destroyed.

It is well to begin the treatment with a mercurial purge followed by a saline, and the bowels should be kept open throughout the attack, as in this way some of the poison is eliminated. You see that the treatment is essentially and particularly an eliminative one.

In outlining this treatment, the writer has given you that which his experience has lead him to believe the best, rather than follow closely any of the authorities, hoping thereby to induce a more free expression of opinion from the members of the society.

The purpose of this paper is to emphasize the following points:

(1) When called to see a child, an aged person, or an alcoholic, it behooves the doctor to examine the chest if the temperature is above normal, regardless of the other symptoms.

(2) When resolution is delayed and hectic symptoms supervene, it is reasonable to suppose that a pulmonary abscess or empyaemia is present or is forming.

(3) That it is the amount of toxaemia and cyanosis, and the relationship of the temperature to the pulse rate rather than its height, which best indicate the outcome of the attack.

(4) That alcohol not only acts as a stimulant in Pneumonia, but also as a food and increases the bacteriolytic power of the blood.

(5) And finally, that we should use the saline solution earlier and oftener and rather as a diluent to the toxines in the blood than as a stimulant to be reserved till the patient is in extremis.

Man's Responsibility in Sterile Marriages*

By W. H. Prioleau, M. D., Asheville, N. C.

Before entering upon the subject matter proper of this paper, I want to emphasize the fact that I shall not touch upon that class of childless marriages, where, for selfish reasons, children are prevented from coming into the world—unfortunately this state of affairs is alarmingly on the increase and the remedy is not yet in our hands.

The condition I propose to discuss is that class of fruitless unions where offspring are wanted and yet fail to come—a true pathological condition which in many cases can now be corrected and can also be prevented from happening in the future.

I shall endeavor in my remarks to remove the stigma from the barren woman and place the responsibility on the man, where it justly belongs in at least 70 per cent. of cases. Vedder says: "Out of 310 sterile marriages, 70 per cent. were due to the husbands, either through azoaspermia, or impotence, or because of the wife's infection with gonorrhoeal disease of her male partner."

That the husband is more often the cause than the wife is easy to prove; but what is most pitiable in sterile marriages is that the man seldom ever questions his own potency, but allows the woman to consider herself the cause and to undergo manifold operations at the hands of the gynaecologists in hopes of relieving the situation.

The husband, not being aware that the sin has been or is in him, is frequently not only the cause of the wife not bearing him children, but too often is he the unconscious cause of her unsexing or death, he having infected her with a disease contracted before marriage. Writing of such infections, Valentine says: "It cannot for a moment be assumed that the men who caused the death of their wives, married with the knowledge that they would produce such disastrous results," and yet Noeggerath as far back as 1876 claimed that 90 per cent. of sterile women are married to husbands who have suffered from gonorrhoea either previous to or during married life.

Realizing the truth of such a statement, the medical profession as a body, and the family physicians especially are to blame for having allowed such a condition of affairs to continue; certainly it was their duty to protect the daughters of the families whose physicians they were, and to advise the sons of those families as to the possible consequences of an uncured or latent specific urethritis. Even if the family physicians had gone only so far as to instruct the parents of daughters eligible for matrimony, as to the danger to woman from an infectious disease latent in man, our grave-yards would not now contain so many young wives, our gynecologists would have less to do, and there would be fewer barren women.

Statistics prove beyond a doubt that specific urethritis is most often the cause, directly or indirectly, of sterile marriages. When we realize the frequency of the disease, the wonder is that all of us are not in the hands of the genito-urinary specialist and our wives under the tender care of the gynaecologist. Lawson Tait claimed that every man, at least once during his life, acquired specific urethritis. This I believe is too high a per centage, but Noeggerath came nearer the truth when he asserted that 800 out of every 1000 men in large cities had gonorrhea. Assuming that Noeggerath's estimate is correct, we have then an existing state of society where 80 per cent. of the men have had, or now have, specific urethritis, a disease in itself and in its complications most difficult to treat. A patient with gonorrhœa will undergo treatment only so long as the discharge continues. He rarely ever remains under treatment until all infection has been removed.

Once anterior specific urethritis is contracted, the danger of the posterior urethra becoming involved is great—some authors claiming as high as 80 per cent. of the cases involving the posterior urethra. The genital apparatus proper being so intimately connected with the posterior urethra, we can readily see how easy it would be for infection to be transmitted from it to them. The vas deferens, continuing as the duct of the epididymis and testicle, joins with the duct from the seminal vesicle to form the ejaculatory duct and to empty into the posterior urethra. The ducts of the prostate also empty into the posterior urethra. Such being the case, the infection from a specific urethritis posterior might easily be transmitted to the prostate, seminal vesicles, epididymis, or testicles. These infections do occur more often than is generally known.

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* Read before the North Carolina Medical Society at Hot Springs, N. C., June 3, 1903.

Frank remarks that in 651 cases of specific urethritis, 210 showed involvement of the posterior urethra, and that of this 210 the infection had travelled to the prostate in every case. The prostate becoming infected, the danger to the seminal vesicles becomes exceedingly great. The diplococcus of specific urethritis being once lodged in the prostate or seminal vesicles, only the most careful treatment, long continued, can dislodge it.

As to the epididymis, Gouley states that it is involved in 30 per cent. of all acute urethrites. The epididymis becoming infected, the natural sequence would be occlusion of the vas deferens on that side; and when there is a double epididymitis, at least 50 per cent. of the cases will be absolutely sterile. A frequent cause of sterility, and one that is often overlooked, is stricture of the urethra. During erection the penis becomes congested, the lumen of the stricture closes, and although the semen may be potent, it cannot pass when ejaculated.

The danger of the man becoming sterile from specific urethritis, its consequences or sequellae, as above shown, is evident; but a more serious condition exists when the disease, although apparently cured, becomes latent; the germs remaining imbedded in some part of the genito-urinary apparatus. Thinking himself cured, or at most only suffering from gleet, he marries. The excesses of early married life produce hyperaemia of the sexual organs, and the diplococci of specific urethritis which have been dormant for so long are thrown from their nests and lodged in the virgin tissues of the new wife. The sequel is apparent to all, and unfortunately almost a daily sight in our practices. The woman becomes infected, pelvic troubles begin, and if she be so fortunate as to escape death, a condition ensues, which to some is almost as bad, a childless marriage. Indirectly the husband has been the cause, and for the rest of her life the woman must remain barren—all due to the man to whom she has given herself, body and soul.

Should a husband with latent gonorrhœa not infect his wife, there yet remains in him a condition which might render him sterile. Where the gonococcus lives there must be destruction of tissue, and pus is deadly to spermatazoa. Inflamatory conditions of the sexual organs which produce pus, even though the cause be not specific, may render the semen sterile.

I might here mention certain other conditions which cause impotency in the man, first by exhausting his strength and producing undeveloped spermatazoa, and afterwards from disease, producing no spermatazoa at all. The conditions I refer to are masturbation, onanism, and sexual excess. To return, however, to gonorrhoeal urethritis as being the most frequent cause of sterility, I want to read the following which bears out what I have said above: "Benzler, investigating gonorrhœa and sterility, followed the histories of 3000 soldiers of the German army who were infected with gonorrhœa during their term of service. Out of 474 authentic marriages of those who had been affected with simple gonorrhœa, he found that 10 per cent were without children after three years of married life; of 111 marriages of men who had had epididymitis on one side, 23.4 per cent. were sterile; of 24 marriages of men who had had epididymitis on both sides 41.7 per cent. had no children, and 52.5 per cent. had only one child." It is to be regretted that Benzler did not pursue his investigation so far as the wives of these soldiers were concerned. Had he done so, his statistics would have been doubly valuable.

Having shown how it is possible for specific urethritis to produce sterility, and having quoted statistics as to its frequency, we come now to syphilis, which, although not so common as gonorrhœa, still ranks high as a producer of sterile marriages. Unlike specific urethritis, it acts on the product of conception and not on the procreative germ. In all text books, syphilis is given as one of the principal causes of abortion, and as man is the aggressor in all sexual acts, it is just and reasonable to suppose that in the majority of cases he has infected the woman.

Being cognizant of the above facts as to gonorrhœa and syphilis, it is our duty to prevent these diseases.

First. Lectures on venereal diseases should be a part of the curriculum of high schools and colleges. It is not necessary for these lectures to be vulgar to be instructive. Every boy on reaching the age of sixteen should be taught the physiology of the genito-urinary apparatus. He should be told of the conditions which follow self abuse and other unnatural sexual acts. Above all it should be impressed upon his mind how serious are gonorrhoea and syphilis, not only as to his own health, but as to his wife's should he ever marry. I remember the most instructive lesson I ever received was from a visit to a dime museum when a college student. On either side of the hall, in glass cases, were wax works showing syphilis and gonorrhœa in their most repellent forms. I have never forgotten what I saw, and to-day whenever I see one of the demi-monde I think how cruelly she may mark her prey—if she have the disease. I advocate school instruction because few parents ever appreciate the proper time for instructing their sons. It is hard for them to realize that their sons' ambitions rise in all directions at the same time. Putting off this important information from day to day is like playing with fire, for some day the boy of the family will "become a man" according to his playmates; he will have contracted either gonorrhœa or syphilis.

Second. Each case of venereal disease coming to a physician should not be dismissed until there is positive evidence of a cure. Patients with venereal diseases are too apt to discontinue treatment the moment all outward manifestations disappear. Because of this fact we have recurrent or latent gonorrhœa, tertiary syphilis, etc.

Third. Each patient with venereal disease should be instructed as to its possible result to himself and wife, if married. If single, he should be told how necessary it is for him to be cured before marrying.

Fourth. Each family physician should inform the parents of marriageable daughters as to the seriousness of venereal diseases. He should counsel them not to consent to the marriage of a daughter unless the man can present a certificate from his physician declaring him free of any venereal infection. Advice given by public documents or leaflets does good, but much more real benefit is to be derived from a private conversation. No one can talk to a parent along such lines except his physician; he will listen to and follow the advice of his doctor when nothing else will appeal to him.

Fifth. Establish State laws making it a crime for a man or woman to marry while suffering from venereal disease. Already several States have passed such a law. All the States should pass it, and, more important still, should enforce it.

Sixth. When a husband of a fruitless union consults you, first examine him carefully before subjecting his wife to the ordeal. After several such examinations you will find in the great majority of cases that the man is directly or indirectly the cause of the sterile marriage.

Bibliography.

Valentine: The Irrigation Treatment of Gonorrhoea—Wm. Wood & Co.

Frank: Gonorrhoea of the Prostate.

Allen: Twentieth Century Practice, Vol. VII.

Morrow: Genito-Urinary Diseases Vol. I

Bangs & Hardaway: Genito-Urinary Diseases, American Text Book.

The Surgical Side of Gynecology.*

By Dr. E. T. Dickinson, Wilson, N. C.

The history of Surgical Gynecology in North Carolina is a short one. It is limited almost entirely to the last ten years. Previous to this, even the few repairs of lascerated perineum and cervix might easily be gathered and tabulated and only a very few hystorectomies had been done, and these by one or two men at most. Previous to this decade there were numerous county medical societies not a member of which had ever made a specular and bimanual examination of a pelvis. This field was given up almost entirely to the old lady, usually colored, with her oak bark teas and washes for her routine treatment of falling womb. This was an unfortunate and ungraceful attitude for gynecology.

But there was a sufficient reason for this timidity and neglect in the simple fact that the opportunities for the successful treatment of these diseases were not present nor easily attainable.

Hospitals for the treatment of surgical cases were all located outside the State, and the necessary aseptic treatment of wounds was not known, and has only now just begun to be properly appreciated and respected by all. The establishment of hospitals and of the aseptic treatment of wounds has advanced surgery in gynecology by rapid bounds.

The general practitioner who had left his cases to the colored woman specialist now makes a visual examination of the lascerated perineum caused by the other fellow's forceps, and palpitates high or low in the pelvis either the normal or abnormal ovaries. This latter, few had done prior to the beginning of the present decade, but the few now are those who are yet unable or have never taken the interest and pains to palpate an overy and to locate and outline the body of the uterus. When all the physicians make themselves familiar with this method of examination, and honestly advise their patients, there will be established a more satisfactory confidence and less of false fear in the treatment of the distinctly surgical diseases of the female pelvic organs.

In practice we are yet allowed to resort to surgical means only after prolonged medical treatment in every case has proved useless.

There are distinctly two classes of cases clinically, one of which is properly and effectively treated by medical science and the other also properly and more effectively treated by surgical art. These distinct classes should be unhesitatingly distinguished one from the other by the physician in charge, and the treatment appropriate only should be advised nor assented to. To do this though would require a clever knowledge and a sensitive touch of all the organs and relations of the pelvis. And here lies the main reason for so much disagreement and unreasonable and useless treatment in this field. One who has not taken the time nor the pains to make his knowledge and touch familiar with these organs will always be found treating distinct diseases accompanied with leucorheoa and other discharges with the routin well-tried douches and local applications. It is true of course that this gives some relief from the ill effects of the irritating discharges but can never reach toward the real disease. For instance, months of diligent treatment are frequently given patients complaining principly of the symptom leuchorhoea which however is only consequent upon the distinct and visible perineal lasceration present. Also the bladder is too frequently irrigated for a long time with hope of curing the discomforts that a repair of the destroyed perineal support would restore at once.

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*Read before the North Carolina Medical Society, at Hot Springs, June 3rd, 1903.

This leucorheal delusion makes more quacks and then supports them than any other influence in the field of medicine. And it is all because some of us who begin as doctors, who should properly observe and learn science, allow ourselves to be deluded into at least this special field of quackery. We must become more scientific and accurate in our powers of diagnosis in this branch.

The only way to acquire this culture is to practice careful bi-manual and visual examination of every case of gynecology that presents itself. This is and should be expected by the patient, and the neglect will be charged against the physician if he fails to do it.

There are three surgical proceedures that give the gynecologist a special sense of security. They well nigh cover the entire field of gynecology, and cure when all the milder elective measures have failed.

The repair of lascerations of the cervix and perineum is the most frequently indicated. This removes the great majority of all the nervous symptoms of which women complain. The repair of lacerated perineum is the only rational treatment of the great train of discomforts and maladies dependent upon it.

The opening and draining of the posterior culdesac through the vagina is a very effective and satisfactory procedure and should be practiced in every case of puerperal sepsis in which curettage is indicated and done, not that every case will be benefitted by it, but because it is harmless to all cases, and a certain per cent. of healthful lives will be saved by this simple precaution. We cannot know that we have reached to the limit of the infection with the curette, but we do know we can include it between the curetted surface and the culdesac drainage.

Hystorectomy may be considered the higher court to which all the incurables should be taken. Lecerations that have been neglected until after the menopause are most satisfactorily treated by vaginal hystorectomy. This cures all vesicoceles and rectoceles and all the nervous symptoms depending upon these organs, and often gives a new lease on the woman's existence, if it may not be dignified as a new life.

Hysterectomy is the only treatment worthy of mention for cancer of the cervix or uterus, and this should be done at the first reasonable suspicion near the time of menopause, as even a short delay may ingraft in the system a disease that can by no means be eradicated.

Hysterectomy is indicated in every woman after the menopause whose uterus has refused to pass through the normal process of atrophy.

"A Plea for the Early Recognition of Pleuritis."*

By Thos. E. Anderson, M. D., Statesville, N. C.
Ex-Sec'y N. C. Board of Med. Ex.

Gentlemen of the North Carolina Medical Society:—All diseases of the chest are not pneumonia. In my practice, the past winter has been very fruitful of the various forms of pleuritic inflamations. I do not account for this increased number so much on the grounds of favorable weather conditions, or increased activity in the especial micro organisms supposed to stand in a causal relation to this disease, though doubtless both have played a prominent part. I rather incline to the opinion that the workings of the inevitable law of compensation had much to do with it, for much time elapsed after I launched out into the practice of medicine ere I permitted my patients to have any other acute affection of the lungs than pneumonia in some of its forms. From the vividness with which the mind retains early impressions, I can still recall the time when a case of so-called delayed resolution following a case of so-called pneumonia still delayed its resolution until finally a small "Hoosiac tunnel having bored its way through the adamantine understanding," I woke up to the fact that I was confronted with a pleuritic effusion following a case of acute pleusisy. Of course I am cognizant of the fact that these pleural affections are often secondary to pneumonia; most frequently, however, they are not, and are the primary trouble. I am not here to bring a railing accusation against any man, or to expose any of the secrets of our order. I know that on this line I would have to cry out, "Pecavi," and the servant is not above his fellow-servant. It is my honest belief that much error is committed just here in failure on the part of many physicians to promptly distinguish pleuritis from pneumonitis, especially in its earlier stages. The broad mantle of pneumonia is thrown over the situation, the patient is delivered over to a routine treatment, until finally retarded return to health, and a significant bulging of the chest parieties turn on the "arc light," and it dawns on the physician, at length, that he is up against a pleuritic effusion which neglected has now reached a stage in which the absorbent forces are unable to keep pace with the abnormally active secretory cells lining the pleura; result, a pleural cavity more or less full of effusion. This in spite of the fact that pleurisy was recognized and described by Celsus in his day, and later still better defined by Galen, while Laenec differentiated the two diseases and laid the foundation of our present knowledge. To palliate the failure to early determine the presence of pleural inflamation, I will admit that from the limited physical signs it is often extremely difficult to make out a diagnosis, and pleuritis besides often exists as a complication of pneumonia, and is often secondary to it.

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In the early stages there are many symptoms in common, and we can forgive our medical brother and join heartily with him in crying out in the language of Job, "Oh, that mine enemy had written a book, then would I have answered him." In modern English "shown his hand," then would I have promptly met the indications. Alas! that diseases, like drugs, are not labelled. This, however, is only a "partial view," and I will not dwell on it. I only desire to stir up your pure minds and put you in remembrance to be on your guard when dealing with these chest troubles. From regarding pleurisy as being the mildest and most innocent affection of the chest appendages, I have come to regard it, after a larger contact with it, as being in its last analysis the most important, most formidable, and least desirable affection with which I am acquainted, while not exhibiting by any means the high mortality rate belonging to pneumonia, yet inflicting on its hapless victim a much more lingering blight, permitting him, it may be, to escape with his life, for which he is often basely ungrateful. Really, in the range of pathological processes, I scarcely know a more to be dreaded condition than that entailed by purulent plurisy, the languorous weakness and discomfort, the slow stages, the sweats, the vigils by night and the hope deferred by day, the final and too often delayed relegation of the case to surgery, the tube in the side, the ceaseless discharge,' all conspire to bring about that state of the soul in the victim which other causes exerted in the mind of "honest Iago" and made him exclaim, "I hate the Moor."

The pleural cavity which in health is lubricated by about two drachms of moist serous secretion, is frequently filled to the extent of 70, 80 and even to 120 ounces of fluid—the latter equivalent to 7½ pints. This compresses the lung and bronchi until all air is forcibly expelled, the lung is compressed against the vertebral column until it occupies a small space under the scapula, often not larger than 3½ or 4 inches square. The diagnosis of the several varieties of pleurisy ought easily to be made by the due appreciation of the general symptoms and the physical signs. By the inflamation the sensibility of the pleura is greatly augmented, hence the stabbing pain felt in inspiration, usually referred to a circumscribed spot under the nipple of the affected side. At the commencement of pleurisy, acute in character, we have for several days more or less *chilliness*, while in pneumonia we have usually but *one* decided rigor. The cough in pleurisy is short and quick with no expectoration, or, if present, it is a thin, frothy mucous. In expectorative pneumonia we have a *tenncious* expectorant soon assuming the rusty color, so pathognomonic of this ailment. In pleurisy what will be most apt to excite the attention of the attending physician is the early subsidence of the temperature with little corresponding improvement of the patient, associated with increasing dullness of affected side. At this juncture nothing but "dullness" could prevent a true appreciation of the situation.

Of the cause or causes of pleurisy I shall have little to say. Many observers believe it to be due to a special microbe. Osler says: "We have not yet, however, brought all the acute pleurisies into the category of microbic affections." Others, adhering to the traditions of the fathers, believe it to be due to cold and exposure to dampness, and for generations physicians have considered cold the most potent factor in its etiology. Certainly the fact remains that pleurisy does follow with great rapidity a sudden wetting or a chill. The advocates of the germ theory claiming the while that cold and dampness merely favor the access of the microbe into the system. Of late years, Osler says, an attempt has been made, especially by the French school of writers, to show that the majority of acute pleurisies are tuberculous. While this may be doubted, yet the same authority says, "that out of 101 fatal cases occurring in his practice, 32 were definitely tuberculous." And Henry I. Bowditch, of Boston, to whom we are indebted for so much of our knowledge of pleurisy, says that out of 90 cases of tuberculosis observed by him, 32 died of, or had, pleurisy, thus showing what an important role tuberculosis plays in the etiology of this disease. It would be a reflection on the intelligence of this body and unprofitable for me to occupy more time in drawing fine distinction between these so well known maladies. If doubt exists, and the physician is truly alive to the possibilities, we have in the very fine needle of the aspirator, thanks to modern investigation and invention, or that of the hypodermic syringe, a delicate and sure means of accurate diagnosis, not only as to the nature of the fluids, but as to the special disease present. Acute pleurisy is essentially a unilateral disease. It does not pursue a regularly defined course, or have we any critical stages as in pneumonia. Its advances are slow and tardy. The effusion, however, sometimes comes on very rapidly, but ordinarily is one or two days in forming. As the effusion advances the acute symptoms, rapid pulse, elevated temperature, acute pain and dyspnœa are materially lessened. The dyspnœa is usually in proportion to the amount of the effusion. After the first few days the tolerance of the system to an excessive amount of fluid is surprising. Absorption is at first rapid, then more gradual, the liquid portion disappearing, leaving the fibronous portion to the slower process of fatty degeneration, thus bringing about the consummation most devoutly desired. But unfortunately this prompt and happy emergence is granted only to a favored few; many languish for weeks in the throes of this calamitous disorder, and many months may transpire unless tapping or, more properly, thoracentisis is resorted to.

The treatment of pleurisy is too familiar to all of you to require more than a passing notice at my hands. I will dismiss it with a tribute to the value of prompt and decided hypodermic of morphia in the inception of this trouble. We all have seen the rapid subsidence of the symptoms under the benign influence of this valuable and much abused agent. I feel I do not claim too much for it when I say that it will, and undoubtedly often does, arrest this disease in its incipiency.

By a stride familiar to the novelist, I shall at once pass to a consideration of the procedure of most value in this affections, viz: aspiration. To America belongs the honor of this invention. Prior to the use of the aspirator the trocar and canula had been the only resort. In 1850 Morrill Wyman first experimented with an instrument employing suction in pleural affections, and to him belongs the glory of the discovery, while to H. I. Bowditch is due the credit of being the utilizer of the discovery, and together they may be regarded as benefactors of the human race. Parisian authors do not even mention Bowditch, but give Trousseau alone the credit of popularizing thoracentesis. Germans have been very slow in appreciating its value, and it was not until 1879 that it had in Germany any ardent supporters.

I shall at once pass to the consideration of the time at which aspiration, or thoracentesis shall be called into requisition. As to this, much difference of opinion exists. How long shall we wait for absorption? Dr. Frank Donaldson says, if there is no evidence of any decline of the effusion in two weeks, slowly withdraw some of the fluid; this will start the absorbents into activity, for the natural absorbing power of the pleurr is diminished when it has been unduly stretched for some time, and the pressure on the orrifices of the lymphatics is too great for absorption to take place, by thus removing the pressure the absorbents are started into activity. Aspiration, under these circumstances, shortens the duration by several weeks. J. W. Hunt advises that we should wait two or three weeks before operating. Loomis says, if the fluid remain stationary for one week, or is increasing until the cavity is half full, we must operate. Burns would only wait a few days if the chest is half full. Oxley advises a delay of three or four weeks, believing that it will require this delay to test the full power of the absorbents. Anstie's rule is to postpone operation for one month. Bowditch says, if the fluid does not subside under medical treatment after two or at the utmost four weeks, even if the patient seems quite comfortable, "it is my rule to aspirate or tap." Thus it will be seen that nearly all of the eminent authorities cited lean to conservatism. I believe firmly in this, as in most all diseased conditions of the body, that nature and nature's God ought always to be given a chance. I am much indebted to and a great admirer of nature. Delay may be indulged if the fluid is still fibronous. There should not be a moment's delay after the fluid has become purulent. In this event, physicians should at once appreciate that they are dealing with a condition analagous to an abscess or purulent collection in any part of the body. There can be but *one procedure*, the prompt and thorough discharge of the fluid—turn it out, free the cavity, and by drainage provide for its discharge as fast as it forms. Even then it will prove a veritable "Widow's cruse of oil," always yielding a never-failing supply. I have at this writing two patients still wearing tubes, the first of which was put in situ February 8th. The discharge is still too abundant to discontinue it. (Since writing this, I will state that I removed the tube May 10th, and the patient is rapidly gaining health and strength). The latter case the tube was inserted April 23rd, and though the fluid has greatly diminished, the end is not yet. The first case mentioned above was that of Mrs. N——, aged 46. I did not see her until the 3rd day, when she was exhibiting all the signs of acute pleurisy of severe type. Her temperature, which had been high, dropped to about normal by the fourth day—dyspnœa very pronounced and annoying. In this case I followed the treatment accredited to Mathew Hay, that of the active depletion of the blood serum, employing to accomplish this, every morning, an ounce of Epsom salts in as concentrated form as possible, an hour before breakfast; also, giving at regular intervals, a solution of acitate of potash in infusion of digitalis, greatly restricting the water taken into the system the meanwhile. This yielded large watery stools, but made but little impression on the amount of fluid in the pleural cavity. Soon tiring of this, I resorted to aspiratio. This was repeated several times, only to form again, the patient steadily growing weaker. Calling to my assistance my friend, Dr. H. F. Long, we made an incision in the seventh interspace, a little posterior to axillary line, and secured a fenestrated rubber tube in the wound. This, from the time it was inserted, gave immediate and thorough drainage.

The second case, that of a youth 16 years of age, of scorbutic diathesis, was a case of secondary pleurisy following a well-defined pneumonitis, the effusion forming very slowly. I aspirated this case several times, after testing all available medicines to discuss the effusion. This gave only temporary relief, and I pursued the same course as in first case, that of incision and securing tube in side. Just here I will remark, that in my limited experience aspiration has always proven simply a temporary measure, the tube being required in every case to effect cure. Aspirator employed was Potains. I would have employed Wilson's Empyema tubes had I have had them. They are made of flexible rubber in the shape of a spool, are cheap, only costing 30c each, and permit free expansion of the lung. I have never attempted washing out the pleural cavity, though this would seem a rational procedure, yet I note a dissent from this on the part of authorities. Nothing but Mount Pelee can exceed the activity of the serous lining of these cavities in pouring out this fluid, and it would seem very desirable to employ the antiseptic astringent washes in these cases, yet so eminent an authority as Bowditch, so frequently alluded to in this paper, says he has only found it necessary to wash out the pleural cavity *once* in 399 operations upon 250 patients.

Asking your indulgence, I will now give my subject, "A Plea for the Early Recognition of Pluerisy," brief consideration. In his reply to Mr. Hayne, Mr. Webster said: "It is well for the mariner after having been tossed at will by the waves for days to stop and take an observation." I was led to write this article from the strong conviction that pleuritis is often mistaken for pneumonia, and that when discovered the favorable time to deal with it had passed, thereby inflicting much lingering suffering on the patient. If I am wrong in this conjecture I ask you to set me right. There are many physicians now-a-days who adhere to the expectant method, who assert that inflamations of serous membranes, pleuritis, pericarditis, etc., unless attended by very great effusion, are not dangerous diseases, and will get well of themselves! What infinite mischief has the adoption of this view inflicted on such datients?

When we consider the disastrous consequences of exudation in binding down and permanently crippling the expansive power of the lungs, we should place at the disposal of these patients all the armaments we possess. Bartholow says the importance of pleuritis as "a cause of phthisis is hardly sufficiently recognized." Austie says, "it is now well established, not merely that pleurisy often occurs in phthisical lung disease, but that pleurisy itself is capable of setting up true tuberculosis even in previously healthy persons." Thus it will be seen that a productive field is afforded for the development of the bacillus tuberculosis. This is enough to stimulate all our powers to promptly relieve these cases.

As, is at once apparent to you, I have followed no rules in the preparation of this paper, clinical history, etiology, pathology, diagnosis, prognosis, treatment, &c., have obtruded and protruded their more or less distorted heads at will. My only desire is that you may be on the alert as you approach these troubles of the chest organs, and that the number of "les miserables" from this cause may constantly diminish, and you go down to your houses justified.

Some Remarks on the Treatment of Harelip*

By James M. Parrott, M. D., Kinston, N. C.

Some of the text books on Surgery describe two varieties of harelip, single and double. There are also three degrees, first, second and third. While the limits of the three degrees are arbitrary, yet the division is really important from an operative standpoint, each degree calling for its particular method. In double harelip the fissures are usually of the same degree, and generally of the third; though in exceptional cases one may be of the first or second and the other of the third degree. A cleft palate or failure of union of the intermaxillary bone usually complicates fissures of the third degree. Wyeth and other high authorities speak of incomplete and complete fissures, single and double. Those which extend up to and into the nostril are complete, while those which are so small as to be scarcely noticeable, or which extend half or two-thirds of the way to the nose, are incomplete. In very rare instances the cleavage may extend even up to the eye. Wyeth says that in double harelip both the fissures may extend into the nose or one (and rarely both) may be partial. I have never seen a case of the latter, that is, a case in which one or both fissures were incomplete.

Fowler, in Dennis System of Surgery, says: "Congenital clefts of the facial region are the result of a failure to coalesce of various foetal clefts between the branchial arches in the cephalic extremity." Cases of cleft of the lower lip, inferior maxillary bone and tongue have been reported by Ribel and others, but these are extremely rare for the reason that the lower lip is formed as a whole from the mandibular or second branchial arch. In the majority of cases this is complete from the beginning. Medium clefts of the upper lip are also extremely rare, and it is said by Fowler that these instances are often associated with absence of the ethmoid turbinate nasal vomer and premaxillary bones.

Single harelip is much more frequent than double. Fowler says they out-number the double almost ten to one. We all know that those on the left far outnumber those on the right; probably due to the same cause for the arrest of development which is said to occur more frequently on the left side.

It seems to me more practical to divide harelips into three degrees, rather than the two varieties incomplete and complete. The complete cases are of the third degree, and one well-mastered operation for these is sufficient provided one possess the necessary experience and inventive genius to individualize a general operation. The incomplete cases are of the first and second degree, and require two operative procedures, one for each degree. Those which extend but slightly beyond the vermillion border and about one-fourth the way to the nose are of the first degree; those of the second extend almost up to or quite to the nasal orifice, those of the third degree completely connect the mouth and nasal cavities.

Certain complication may exist in each variety, though it is extremely rare for one to be present in single harelips of the first degree. Malnutrition and various disturbances of the alimentary tract should contraindicate an operation as should bronchial complications, unless perchance the former be caused by the harelip; then the little suffer should be operated upon at a time when it is at its best. It is sometimes proper to operate during an attack of bronchitis, but this as in the gastro-intestinal disturbance cases should not be done unless it is possitively indicated by the systems as being either a direct or indirect causative agency.

In some cases of doubtful herelip the projection of the intermaxillary bone forms a very ugly complication. Just what disposition should be made of this bone is sometimes a debatable question. Fowler is unquestionably right when he says, "In cases of but slight elevation or entire absence of the projection the labial clefts may be closed at once." In those cases which are favorable for the immediate closure of the harelip the operation exercises a favorable effect upon the cleft palate which accompanies this projection as well as on the projection itself. The question as to the proper disposition of the intermaxillary bone is only debatable when the projection is marked. Wyeth simply says that the projection should be forced back into a safer position or broken off with a chisel. DeCosta says, "The premaxillary bone should, in most cases, be removed." He further says that if saved it is liable to necrose or the teeth soon decay. Murray holds that if you keep the bone the operation on the lip will be difficult, and that the bone will act as a wedge preventing the closure of the anterior part of the accompanying cleft palate. There is no question but that removal of this bone has led to flattening of the upper lip. Murray claims, however, that this will not be the case if the bone is removed subperiostially and one fissure of the harelip closed at a time. Rose also advises the removal of the bone. Bryan is also inclined to advise its removal by the subperiostal method.

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Many surgeons equally as eminent as these advise against the removal of this bone. Fowler says, "The removal of the intermazillary bone at the present day must be considered as little short of unjustifiable mutilation." Gensoul advises its removal by forcible fracture or crowding backward of the vomer. Blandin's method of handling this bone is a very good procedure, and has a great weight of high authority on its side. His procedure consists in the removal of a triangular portion of the vomer. My limited experience has led me to agree with Park when he says that this bone should be pushed in if possible, if not it should be excised. Both procedures have their advantages and disadvantages, indications and contra-indications.

The most common and sometimes the most important complications of harelip, especially single fissures, is the cleft of the hard palate which generally accompanies those of the third degree. When a cleft palate complicates a herelip, the harelip should be operated on first, since the pressure on the closed lip lessens the gap in the growing bone. Edmond Owen has shown the fallacy of waiting until the fourth year to operate on the palate, as was and is generally the custom. For many reasons which are apparent, it is better to operate on the hard palate the second year and on the soft palate during the first six months of life.

When a harelip is first seen the question which naturally arises is, when shall the operation be performed? In a general way I shall say at any time the health of the child permitting, from a few weeks to as many years. Mumford and Heath have advised that the best time to operate is from the sixth to the eighth week. Murray and others advise operating much earlier. The majority of French surgeons agree to an early operation. Plump, robust, well-nourished children can be operated upon earlier than if weak and puny. There is generally no well-grounded reason for operating earlier than the fourth month, while it can be delayed until the second year without any material damage to the baby. Infants bear the loss of blood very badly, as also the shock attending the operation. There is no reason for the former in uncomplicated cases, and despatching work will do much to prevent the latter. In the fall, winter and early spring I operate at any time if the child is well, after three or four weeks; while in the summer I delay for reasons which are easily understood. I prefer to operate a little later for double than single harelips, though I unreservedly condemn the idea of waiting until the second or third year in these cases as advocated by many. While waiting to operate, the mother should be emphatically and carefully instructed to massage, and passively force the maxiallary bone to its normal position and shape. This will do much to reduce any slight deformity, and will materially assist cosmetically.

The first step in all operations is to remedy any decided bony projections as the reduction or removal of the intermaxiallary bone; and to take the necessary steps to prevent too much tension at the borders of the defect. Most authorities seem to think and teach that it is generally necessary to separate the lips and even the cheek from the bone. On the contrary, I believe it is generally unnecessary to thus further complicate an otherwise simple operation. The blood loss which accompanies this seperation is sometimes very great. It adds materially to the shock, and afterwards to the inconvenience of the little sufferer. In addition to these objections the patient swallows more blood from this procedure, and because of it the greater the liability to gastro-intestinal irritation. In a general way I condemn it as being an entirely unnecessary procedure in the majority of cases. The last case of harelip upon which I have operated was a little victim of 12 months. Assisted by Dr. C. L. Pridgen and Dr. W. T. Parrott I did a typical Giraldes operation. Although he was moderately fat, and although the cleft was of the third degree, still I found it unnecessary to separate even the lip much less the cheek from the bone. The proper application of Zo. adhesive plaster will not only protect the wound but will prevent too much tension on the sutures as well.

The second step in any operation is to freshen the borders of the cleft. This should be done only after having very carefully mapped out in one's mind the details of the particular operation. This is very important, for if it is done in a haphazard kind of way the edges will not properly approximate, and much valuable tissue will be unnecessarily sacrificed. The edges must be cut smoothly and of equal thickness; for this purpose I prefer a very thin, sharp scalpel. Unless one has mutilated the patient by cheek and lip dissection, practically all the blood lost during the entire operation will be lost during this stage. This, however, can and should be prevented. The corronary arteries course along the edge of the harelip and are cut in nearly every operation. They are unusually large in these cases, and unless prevented from so doing bleed very freely. Several months have been suggested and practiced to prevent or control this complication. There are three ways which suggest themselves as being most practical and of most service.

First, direct and immediate pressure by the assistant; this is objectionable, however, because the fingers are in the way to a certain extent. The second device is to pass a suture through the lip in such a way as to control the bleeding either by tying or better by pressure by simple traction. The third method is by Langenbeck's serrefines. This is by far the best, as one applied to each angle of the mouth reaching outward and upward will control and prevent all hemorrhage very effectually without injury to the tissues or being in the way of the operators. It is unnecessary to ligate these arteries, as the hemorrhage will be controlled when the sutures are tied.

The third step consists in the approximation of the divided borders. The borders should be brought together by forward pressure by the assistant. The old time harelip pin is to be condemned absolutely. Great care should be taken to properly adjust the freshened edges, particularly the vermillion border. Great care should be taken to built a tit as nearly normal as possible, or else the operation will be more or less a failure from a cosmetic point of view. I usually dress the wound with collodium and iodoform (this is sometimes very irritating, however, and should be used sparingly) and then apply Zo. adhesive strips some distance back on the cheek, drawn forward, crossed and attached to the opposite cheek. This supports the collodium, and when properly applied prevents tension on the sutures. This is absolutely essential. We should always avoid closure of the nostrils and prevent if possible the swallowing of blood during the operation. The sutures should be removed in five to seven days, and careful attention should be given as to the care of the bowels and proper feeding.

A great many operations have been devised for harelip, both single and double. It is entirely unnecessary to even mention the names of all of them. I have nothing new to offer, or any particular point to emphasize along this line. For a harelip of the first degree I prefer Nelaton's operation; for those of the second degree I usually follow Malgaigne's procedure; while for third degree harelips in my opinion Giralde's operation is by far the best. In all cases any nasal deformity which may complicate the harelip should be corrected at the time of the operation.

In conclusion permit me to quote and endorse the following advice from Mumford's rules for the treatment of harelip as stated in "Progressive Medicine" for March, 1899, which are as follows:

1. "Babies with hare not of necessity feeble at birth, and can be kept at the normal standard by proper feeding.

2. "The field of operation should be kept clean with antiseptic washes before operation.

3. "Operate from sixth to eighth week. (I wait longer in double harelip).

4. "Do not slash with scissors, but cut and trim with a knife. Use no pins or heavy outside sutures.

"Leave the heavy inside stitches for six days.

6. "After operation, give special attention to the care of the bowels and proper feeding."

Diet in Tuberculosis.*

By C. P. Ambler, M. D., Asheville, N. C.

It is now becoming well recognized that the first requisite in the care and treatment of Pulmonary Tuberculosis is consideration of the digestion track and the securing of the best possible assimilation of the food eaten. The frequency with which digestive disorders are met with in Tuberculosis at the time we first make a diagnosis brings up the question of whether the digestive disorder developes secondary to the Pulmonary troubles or whether the Pulmonary precedes the digestive disturbance. The ætiology of Tuberculosis is well established as depending upon the presence of tubercle bacilli; but whether some lowered condition of vitality,—for instance, a defective digestion or assimilation, does not precede the infection and allow the same, furnish the proper soil, so to speak, is not so well determined. Undoubtedly infection can and *does* occur in the healthy; the predisposition, however, must be greatly enhanced by faulty nutrition of long standing.

Experience has shown that man thrives best on a mixed diet containing the nitrogenous products, non-nitrogenous (fats and hydrocarbons) and inorganic matter (salines and water). These principles hold different relative positions in value; the same rule cannot apply to all cases, but a deficiency in the presence of either of these three principles is always, sooner or later, followed by disorder more or less serious; slight if temporary, serious if continued. We cannot say, however, that Tuberculosis is a disease which follows distinctly where the above mentioned principles are disregarded. Many persons habitually eat sparingly of hydrocarbons without apparent ill effect. Not so, however, where one from choice or circumstance does not secure the nitrogenous foods.

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* Read before the North Carolina Medical Society at Hot Springs, N. C., June 3, 1903.

Experience has shown that for a person in the ordinary walks of life a vegetable diet is safer than an absolute meat diet. The greater the physical exertion or the colder the climate the greater must be the proportion of hydrocarbons.

While we hear much of the danger of contracting Tuberculosis through eating animal food, personally our records show that meat eaters enjoy greater immunity than the vegetarians. Butchers, as a rule, are great meat eaters, and, according to our experience, show fewest number in reference to occupation. True, the meat eaters generally take more exercise than the vegetarians, and the exercise is more often taken in the open air; in this way the meat eater may secure his greater apparent immunity.

Without further attempt to show whether the Tuberculosis precedes the digestive disturburbance, or the reverse, the fact remains that the greater number of our tuberculous patients do have digestive disorders, and this condition demands most careful consideration.

The physician has in the past used in an experimental way almost every drug known in the hope of finding some specific in this disease; we have gone to the most absurd length in both quantity and quality of the drug or preparation we have put into the tuberculosis patient's stomach; we have educated him to take medicine; we have talked tonics; we have led the laity to believe that when sick, medicine by the stomach was a necessity, until we ourselves have undoubtedly been responsible for many cases of irritable stomach; weakened digestion and lowered assimilation. In our efforts to aid the lung we have over-looked the stomach. Later we have resorted to over-feeding in place of so much medication internally and here again we have injured the stomach perhaps already abused and over-taxed. We soon find that forced feeding does not mean forced assimilation. We have learned slowly and at great cost to the patient that the sheet anchor in the treatment of this disease must be assimilation. In order to secure this we are using less drug, we are using more care in feeding, guarding against excesses and avoiding over-loading the stomach. The case which is diagnosed before the stage of destructive process, before fever and exhaustion have appeared, will do best on a mixed diet, including especially plenty of meats and milk. This class of patients should eat generally and to the extent of satisfaction, provided they are taking daily exercise in the open air, as living in the open air gives both an appetite and increased digestive powers. If the patient is allowed to exercise without restriction and does so without exhaustion, he may then be safely allowed to eat as his appetite dictates. Three full generous meals (with five hours between) made up of mixed foods seems to give the best results in this condition.

If the disease has already advanced to such a point that fever, wasting and debility have appeared, then the avoidance of violence in exercise is of the most vital importance. This patient should certainly not be directed to either exercise or eat as would the former. If the temperature reaches a maximum of 101 or over each afternoon, the regulation of exercise and diet becomes imperative. No person can digest and assimilate large meals of mixed or heavy foods habitually without exercise. The tuberculous patient who runs a high temperature record must not attempt exercise except of the lightest; this tuberculous patient should eat of easily digested food and make a light meal of that immediately preceding the time of day his fever comes on. Indifference to this usually results in indigestion, manifesting itself either by diarrhœa or constipation. Repeated and repeated mistakes of this kind in eating generally precedes tuberculous infection of the bowel. Fats and meats especially should be avoided at fever times. Meat taken when fever is present usually ferments before leaving the stomach.

In the more advanced cases where the destructive and septic symptoms are more pronounced, it is even more imperative to follow a proper diet. The more solid foods should be eaten at the time of day when the temperature is normal. If the patient is emaciated, weakened and exhausted no greater mistake could be made than to suggest forced feeding. The careful regulation of the diet in these cases in accordance with the symptoms and vitality exertion and exercise and so on, will result in great amelioration of the distressing symptoms so often met with. The administration of drugs for correcting the indigestion or bowel conditions met with in these latter cases is worse than useless, unless strict attention be given to the diet. Strict diet, even to the extent of liquids alone, should be enforced if necessary.

Where tuberculous infection has occurred in the bowel, care in the kind of diet, time of taking, amount and frequency must all be considered. Such infection probably occurs as a result of swallowing sputum. Many patients will not believe that they are ever careless enough to do this, but when once they are thoroughly instructed as to the danger, possibilities and results of such a practice, the habit can generally be broken up.

When digestion is faulty, either from indiscretion on the part of the patient or from the septic condition and debility of advanced cases, the prepared foods will frequently be serviceable, and indeed, it is hard to see how we ever got along without them. When the appetite is poor and but a small quantity is eaten at meal time, we frequently order something between meals. Milk, malted milk, or egg albumen is generally ordered because either of these is easily prepared and answers the purpose well. Panopeptin, Liquid Beef Peptonoids, Beef Extracts, Somatose, Albumose and Tropton, all have their place in the more advanced cases. Malted milk and Panopepton especially have we favored in severe cases of tuberculous bowel trouble.

The diet becomes a matter of serious importance in cases where advanced tuberculosis is present in the larynx. When deglutation becomes extremely painful or food enters the larynx or trachea on account of destruction of the eppiglottis, we have secured most gratifying results from junket. Junket and egg albumen will be taken with little effort or pain in cases where resort has been necessary to the stomach tube for feeding purposes if other foods are given.

Drugs in the Treatment of Pulmonary Tuberculosis.*

By Carl Reynolds, M. D., Asheville, N. C.

Like the poor, we have always with us, a subject on Tuberculosis, and seldom anything new to add, but there is no subject that should be of greater interest even to the general practitioner, as he is the custodian of health from whom the specialists receive their cases, and after all the one whom the family holds responsible for their ultimate success. It would be superfluous to mention statistics as regards frequency and mortality, as we all well know that there is no malady in the realm of disease that is more destructive to the race, and that it is the united experience of all, brought out in our societies, that to-day leads us to believe that if recognized early Phthisis is not so much to be dreaded, but results very gratifying, and, as Austin Flint remarked: "Phthisis is an acute disease with an intrinsic tendency towards recovery," which the author of this article is prepared to believe to be wisdom, if the conditions are recognized early, and the hearty co-operation of our patients are obtained.

The use of drugs in tuberculosis is necessarily a broad, inexpanible subject, and will be compelled to be dealt with in a more or less general manner. For convenience we will class them into constitutional and local medication.

The tendency of the times is, I think, to lose sight of all remedies and forms of treatment other than food, hygiene, and out-door life, with which I can heartily coerce in giving a prominent place—without which our efforts would be nil—but at the same time we err too often in being extremists, allowing hobbies to control our better judgment.

We have no specific in the treatment of tuberculosis, and drugs given in a routine way does do, at times, considerable harm. It is not our duty to write a prescription every time a patient presents himself, and by so doing damage is done. Understand me not to be antagonistic to the use of drugs with discretion, for medication is far reaching in its merits, and are invaluable adjuncts in relieving our patients.

No one knows it all, and it remains for us to select good from the general knowledge, based on experience of all, and united in our conclusion, make the crusade on this dreaded disease, and victory is ours. When medical men agree and take a firm, positive stand we can but advance.

Nutrition depends upon—

1. Proper supply of oxygen and nutriment to the tissue in the body.
2. Proper amount and kind of tissue change in the cells.
3. Proper removal of waste.

If we have the above requirements why interfere? If not, every effort should be made to aid nature in her deficiency.

In administering drugs internally the alimentary tract and its ability to take up and assimilate should be the key note to success. Avoid prescribing in an indiscriminate manner, for each drug, whether it be alterative, restorative, or symptomatic, has its positive or contra indications. The microscope and hæmoglobin test will show that a large per cent. of these cases in the first and second and often third stages have a high per centage of red blood cells and hæmoglobin—contra indication, I take it, for iron. Why, may I ask, do we insist on their taking it? Is it because we desire to aid in overpowering our already disabled stomachs?

You may say, not guilty, but we are. and hence a plea for the unfortunate is asked, It is not intended or desired to place an undue valuation on the uses of iron, but recognizing that fact, I merely insist on prescribing upon positive indications which is just, right and proper, Cod liver oil.

Of all the restoratives, oleum murrhuæ should be the one that caps the pinnacle. In it nature has supplied us with a natural food, elaborated fat, digested and ready to aid our forces in resisting death by so readily increasing red blood cells, muscular and nervous tissue. But, at the same time, with its incalculable virtues, like all good things, its use is abused.

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*Read before the North Carolina Medical Society, at Hot Springs, N. C., June 4th, 1903.

It has been my experience that cod liver oil is not easily assimilated, especially in the hot months, and its administration should be handled with care and not given indiscriminately, by so doing great harm will be done. Eructation of the drug after its use is a voice from the stomach saying, no more. Fever cases is a contra indication to its use. Listen, gentlemen, and heed the contra-indications of nature, and we will not err.

Creosote.—The firm stand taken by those advocating the use of creosote in large doses, as quoted from the American Druggist and Pharmaceutical Record, namely: Dr. Chas. Lamplough, (Brit. Med. Journal, 1-5-28-'99); Dr. Graham (Brit. Med. Journal, 1-15-'98); Dr. Frendenthal, of New York, (Med. Record, 4-23-'92); Dr. J. A. Burroughs, Asheville, N. C., (Jour. American Association, 5-1902), and the great opposition of the medical profession at large, has brought out a very valuable point in the administration of creosote, which is: Cold tar creosote contains carbolic acid, which produces such disastrous effects, while wood tar creosote is free from carbolic acid, and hence the secret to its successful use.

These two schools, you may say, have given, in this manner, to materia medica an invaluable drug in tuberculosis, and this investigation will be a stimulus, I trust, by which we will still seek to find the secret to the failure of others.

Alcohol is a drug that should be prescribed with wisdom and discretion, and never allowed to be taken except as a medicine, and then a specific amount at stated intervals.

I am aware of the fact that social drinking is a danger well to be considered. To be responsible for the destruction of a soul and body, and causing one to experience the suffering and horrows of hell while living, would leave an impression never to be erased from our memory. But alcohol is a medicine of great import in tuberculosis, and should be administered with a great deal of discrimination. It should be given preferably during meals or after, for two reasons: First—It does not promote such a taste for liquor. Second.—It does not cause congestion of the lining membrane and give such a disordered stomach.

The best effect alcohol has in promoting digestion is by stimulating the emotions and feelings pleasantly, producing a happy train of mind, at which time digestion is at her best. Alcohol, when given in this manner, and no untoward effects produced, does bring about some beautiful results in the management of Phthisis.

I am aware of the fact that it interferes with oxidation, and why it produces its splendid effect I am unable to say. May I ask why?

Symptomatic medicines, more particularly those used to control cough—morphine, codein, heroin, etc., given to appease the patient, are doing more deadly work to-day than any known disease, and who is at fault?

Nothing can be more pathetic than to listen to a confession of one who has lost his will-power; his mind so deranged that it renders him powerless to say no; a victim to drugs that have him chained, and and doomed to lapse into a life of vision, dreaming away his existence. There are very few patients with this trouble that are not as familiar with the use and effects of the above narcotics as we are, and while they are useful in their respective places, they are by far the most abused drugs now in the pharmacopœia. Something should be done to blind our patients while administering such treacherous remedies.

In pneumonia, acute bronchitis, etc., when the cough is harrassing and troublesome, we do not think of administering an opiate, but an attempt to render a useless cough into a useful one is our process. Why not here?

By local medication—creosote, terebene, menthol, ammonia, oil pine needles, etc., used by the method of interpulmonary medication, by means of compressed air, will in most all cases make the above change and render the patient permanent and satisfactory good.

Occlusion of Nares by Adhesions, Following Traumation—Report of Two Cases.*

By K. P. Battle, Jr., M. D., Raleigh, N. C.

A greater or less degree of obstruction to nasal respiration as a result of traumatism is comparatively common. There may be a fracture of the triangular cartilage, the vomer, or less often the perpendicular plate of the ethmoid. There may be a dislocation of the triangular cartilage without fracture. So much thickening or deflection of the septum may ensue, accompanied perhaps by swelling of one or more turbinated bodies due to pressure effects, that one or even both of the nasal chambers may be completely occluded.

I do not speak of such conditions but report two cases of absolute closure of the fore part of the nasal passages resulting from the growing together of the opposing surfaces of the torn and swollen soft parts. Both applied for treatment of the stenosis after the healing following the injury was complete.

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The first case was a negro boy of about five years of age, who some months before had had his nose crushed by the catching of his head between the lever and the top part of the frame of a cane mill. A definite statement of his condition after the accident and an account of the treatment could not be obtained When I saw him the external nose was not of unusual shape and the margins of the nostrils were normal. Both vestibules, however, were obliterated by scar tissue and no air whatever could pass.

Under chloroform vertical incisions were made through the obstructions and carried from the bony floor as far as possible upwards. Each fleshy dam was about a quarter of an inch thick, but beyond this the way was clear. Silver tubes of an oblong cross section and flattened sides were inserted. The patient was sent to his home in another county with a request to his physician to see that the tubes were removed, cleaned and replaced every day for six weeks.

I have not seen the boy since but I am informed that the use of the tubes was continued for the prescribed time. The best account to be had of his present condition is that the opening on one side of his nose does not seem as large as the other and that he breathes well through his nose during the day, but snores more than the other children at night. Doubtless there has been some contraction and there is room for improvement.

The second case was that of a young white man who in September last was riding alone on a light three-wheeled railway hand car. Such speed was reached in going down a grade that the car left the track and he was hurled forward a great distance head first. His nose struck the sharp edge of a cross-tie and was nearly torn from his face. The blow was a glancing one else his whole face must have been crushed in and the man killed. As it was there was a scissor-like action between the edge of the cross-tie and the sharp anterior edges of the nasal bones and the nasal processes of the superior maxillary bones. The cut passed also through the middle of the septal cartilage, the anterior half of it coming away with the rest. The wound extended down behind the upper lip but not through its mucous membrane. The skin over the bridge was scraped off, the right nasal bone dislocated from its fellow and from the frontal.

When his medical man, who is a surgeon of skill and reputation, saw him, the nasal cavities were exposed almost as in a dried skull and the nose was hanging down over the mouth. The nasal bone was put in place and the wandering organ was washed and stitched back into position. When the sutures were removed on the fourth day the wound in the skin had everywhere united, except in one small place which soon healed by granulation. For many weeks the nose and upper lip were much swollen, but the final result from an objective point of view is remarkably good. To-day the scar is barely noticeable and to old acquaintances the face is the same as before the accident. But in regard to the outside the story is different. When I saw the patient five weeks after the injury the nasal passages were blocked about half an inch behind the nostrils, one side absolutely so; in the other a probe could be forced through one small opening. After cutting through the obstructions due to the union of the soft parts and the formation of scar tissue difficulties were found as a result of the injury done to the septum. One long projection near the floor was reduced by the trephine run by an electric motor. But it is unnecessary to weary you with a detailed description of the treatment. It will suffice to say that tubes were employed as in the first case, simply plugs to keep the parts separated during healing, which were hollow for the purpose of allowing nasal breathing during the process. Various sizes and shapes were put in and changed as occasion required, as large a size as could be well born being always chosen.

These tubes were what are known as septum splints, made for the support of the septum after the Asch operation for deflection. Some are made of hard rubber and some of metal. Both can be changed in shape to some extent, the first by the aid of hot water. In one side of the nose at first none of those on hand could be made to enter and fit properly. In this dilemma I took some dentist's composition, "Gilbert's temporary stopping," which is soft when hot, moulded a plug of the desired shape and got a jeweler to make a silver tube of the same dimensions. This served very well.

The patient lived at a distance and I was unable to give him the personal attention to detail that was desirable during the progress of the case and I think that more breathing space can still be obtained, but he finds the result satisfactory, at least for the present. He can breathe easily through both sides except during part of the night and when taking active exercise.

Passing now to the general subject of crushing injuries to the nose and their tendency to diminish the normal caliber of the air passages and interfere with respiration of course there are those present here who have had to deal with such cases in the recent state. Can they not give us the benefit of their experience? What success have they had in preventing a threatened obstruction to nasal respiration? In the second case, which was extraordinarily severe, the surgeon was naturally chiefly concerned in preventing an external deformity and succeded in it admirably. It is a question whether so good an external result could have been obtained if much attention had been paid to the internal condition, but as a general thing in treating a blow on the nose are we not prone to overlook the possible effects upon the shape of the interior and so fail to take measures to prevent them?

Some General Remarks on Gynecology.*

By J. F. Highsmith, M. D., Fayetteville, N. C.

The most difficult task to me as chairman of this section has been the writing of this address. I fully realize that those before me are the representative hard working and most scholarly gentlemen in the territory in which they reside. A recognition of this fact does not make the writing of this address easier, far from it. I realize that each one present has kept himself informed on the progress of gynecology, hence what I may say is simply the performance of a duty as chairman of this section. It is wise sometimes to review the history of the past, and garner its lessons for the future. The great advances of the past have taught us the importance of the present and have pointed out to us the lines of research for the future. It is a pleasure to review the progress made in gyneic and pelvic surgery by American surgeons. The birth place of most gyneic operative procedures is found within the domains of the United States. What an inheritance for the operators of to-day. Review the list and it is inspiring. The genius which invents and establishes a system, a method or operation, and thus saves lives, lessens suffering, or restores to usefulness the stricken members of the human family, deserves the boundless gratitude of mankind. It is owing to the investigation of the gynecologist that pelvic surgery has reached the high plain it holds to-day. We owe our predecessors a debt of gratitude we can only pay in installments by accepting their good precepts and endeavoring to follow, or improve the same when possible. We, the younger members of the profession, can never fully realize the difficulties which hedged about the study of pelvic pathologic conditions of woman at not a very remote date. This was due quite as much to the prudish reserve of the profession as to that of the laity. Dr Bennett, in the preface of the first edition of his work entitled, "The Inflammation of the Uterus," published in London, 1850, states that in England no examination, even of a married woman, is attempted by the most experienced practitioner, unless there be very serious reasons for such a step and very frequently not even then. That this laudable sense of propriety is however often carried much too far by the members of the medical profession, even at this day, is well known to all who especially study uterine pathology. I might cite numerous instances or illustrations of this fact. Here it is, the general practitioner has the responsibility of these cases. It is in his power to understand the case, in every way, and direct the sufferer to the right channel to bring relief and restore health and happiness to the home and to the afflicted. It is here the general practitioner has it in his power to mold, form, and strengthen character for the future generation. The general practitioner and the specialist should meet in mutual relations, the family physician accurate in his diagnosis, with the welfare of his patient at heart, the specialist, the gyneocologist, ready and competent to give honest advice, being conservative when necessary, or radical in his operative interference if he thinks best, but he should always give to the opinion of the general practitioner every consideration in directing him in his radical treatment, the general practitioner being intelligently accurate in his diagnosis and honest in his convictions. If such be the general practitioner, the gynecologist giving due consideration to his ideas in directing the future management of the case, he will thereby save many good ovaries and avoid much needless suffering. In the history of gynecology in this country, given by Reynolds in an article appearing in the Boston Journal, he calls attention to the fact that gynecology is not exclusively a surgical subject, and to the necessity of a correct diagnosis. The physician should look after the physical state of the pelvic organs, investigate the diathesis, uric acid etc., and pay careful attention to the symptomatology.

In this number he calls attention to the physiologic side of evils due to the imperfect methods in investigating the cases, false modesty, and to proper instructions to the dangers of gonorrhoea and syphilis in man as an element in preservative medicine. The evils of corsets for young girls are also mentioned, and the necessity of repairing lacerations and other injuries incident to parturition before the climatric period. The importance of looking after cancers and irritating symptoms, ovarian and renal troubles in women, especially cystitis and physical examination of urinary organs, which are too often neglected, are emphasized. The question of most importance to us to-day is the correct diagnosis, for on early discoveries the all essential problem of prophylaxis and cure hangs. In cancer of the uterus this is especially true. While statistics of cures and failures of cures vary according to the experience of various surgeons, I think I am safe in saying that a per centage of cancers operated on early remain cured. The post-operative history of these cases is not yet what we desire. Early recognition and prompt surgery offer the solution in part to this disappointment. How important it is that these cases be diagnosed in time. We constantly have these cases coming to our offices for treatment when it is too late for surgical interference, in fact, this is the rule. Speed the day when this will not be the case. Knowing as we do the great importance to be attached in looking after lacerations and the general condition of the uterus and its outlet, we cannot be too careful in looking after these cases from time to time, especially if there be any irregularity. The early detection of gonorrhoea and its proper management by the necessary local treatment and by the avoidance of intrauterine sounding, will materially reduce the number of ovarian and tubal specific diseases. As to choice of the abdominal or vaginal route for enucleation of ovaries and tubes, the war is still on, the conflict is not settled in the minds of many. All are agreed that there are good ideas and correct surgical principles in both methods in selected cases. I believe that the abdominal route for dealing with adherent and suppurative tubes and ovaries will remain the route of choice by the majority of American pelvic surgeons. The mortality by this method being low, the surgery complete, and the relief nearly perfect; but where there are no adhesions, in select cases, the vaginal route is to be commended. We have outgrown the theory that because fibroids may atrophy and disappear after the menopause, it is safe to leave them to nature even where there is possibility of such disappearance. The waiting is too hazardous, the hemorrhages themselves often producing anemia sufficient to impair the after health of the patient, besides there is great danger of the fibroids undergoing malignant changes. It is a conservative statement that upwards of one-third of the women having fibroid tumors will die thereby if not subjected to operation. The contrast with the result which can be secured by operation is very striking. Montgomery states that the mere discovery of the existence of myoma must not be considered as a necessary indication for its removal or even treatment. In this respect myomatous tumors differ from ovarian growths and from cancer, for the latter must be removed early, because their continual existence results in destructive influence upon the organism. The myoma must cause symptoms in order to indicate interposition. Boldt states concerning treatment, this may be divided in palative and radical or surgical and medical. Our aim should be to free the patient of existing pain and remove any condition which jeopardizes life. A serious operation should not be undertaken just because a woman has a fibro-myomatous tumor; the growth must in some manner endanger life or health and not be amiable to other treatment before this is permissible. These quotations indicate, so far as text books are concerned, that the classical teaching about fibromata of the uterus are still perpetuated; namely, that these tumors are benign in character, that usually they produce few or no symptoms, and that their chief danger consists in their tendency to produce hemorrhage, and that after the meno pause they have a tendency to shrink or disappear. Are not these teachings contrary to facts which we gather from clinical experience? Experience teaches me they are.

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*Read before the North Carolina Medical Society, at Hot Springs, June 3rd, 1903.

Modern gynecology has done much to demonstrate the physiological importance of the omentum. I am sure its importance has been greatly underestimated. The normal mechanical uses of the omentum are obvious. The omentum plays an important role in the repairative forces following tramatic injuries of the abdominal cavity. That it has some property in conveying immunity to the general peritoneal cavity has been shown by the interesting experience of Rogers. He demonstrated that the omentum is a lymphatic ganglia. In rabbits and guinea pigs he removed the entire omentum, then injected pus organisms in the abdomen. All the animals died within a few days, while those in which the omentum remained survived, although inoculated with some microbes. The omentum has been used in cases of perforated stomach, and also intestines, to close same. If we could look over the laparatomies done in this country in the last few years, I have no doubt we could find that the omentum is a pathologic factor, far greater than we have heretofore believed. While gynecology has made wonderful strides in the last few years, taking many pages and consuming too much time to go into details, it sufficeth to say that we are just arriving at the threshold of the greatest era in our history, in which the full value of prophylaxis is being recognized, and gynecologic knowledge and experience are to be the recreator and conservator of health in women.

In this day, when the complexity of civilized socicl life makes such demands upon the physical constitution of the race, the public has come to recognize that the very existence of the species depends upon an improvement of its physical standards. Boards of health, public interest and encouragement are helping us on in our national and municipal efforts, but to whom shall be left the intimate personal problems that pertain to the girl and the woman?

Only gynecology can rightly determine the impoıtance of the developmental period and the relation between education, social habits and environments and the diseases from which so many women suffer; can estimate the individual need for functional development and teach women the relative advantages of prevention and cure of pelvic disease.

Whatever he may call himself, surgeon or general practitioner, he is a true gynecologist who takes this view of his work and becomes the prophet and propagator of prophylaxis. It is itself too broad a specialty to be merged into any other, and along this line it must grow, on the one hand perfecting its knowledge of pathology and etiology and its curative methods, and on the other working to eliminate from modern life causes of disease in women.

The Tuning Fork in the Diagnosis of Fractures.

Andrews (Chicago Medical Recorder) mentions the usefulness of the tuning fork in the diagnosis of fractures, especially of the long bones. The test is made by placing the bell of a stethoscope over the bone near the supposed fracture, where the soft tissues are as thin as possible, and the handle of a tuning fork as close to the bone as possible beyond the supposed seat of fracture. The sound will be transmitted through the shaft of the bone to the stethoscope and through the stethoscope to the ears of the examiner. When the bone is intact, if the test is properly made, the sound of the fork will be heard with great distinctnes, but if there is a solution of continuity the sound will either not be heard at all or will be heard very faintly. By comparing the intensity of the sound on the suspected side with the sound heard under similar conditions on the normal side, the question of continuity of bone can be determined. The test for fractures is based upon the fact that bone is an excellent conductor of sound waves, while the soft tissue of the body conducts sound waves very poorly. The bell of the stethoscope should fit tightly to the skin and when comparing the sound and injured sides the instruments should be placed in the same relative positions. The sound waves will be transmitted through a fracture if the two ends are crowded together; also through a joint, especially of the articular surfaces are forced together.

The Treatment of Trigeminal Neuralgia.

Brown (Scottish Medical and Surgical Journal) advises in his treatment of this affection the administration of quinine in 10-grain doses, which may be repeated two or three times until the pain subsides. Sodium salicylate, though not so powerful or so immediate as quinine, has given relief. It may be combined with phenacetine or antipyrin: a powder containing 5 grains each of quinine, sodium salicylate, and phenacetine. Another preparation is aspirin in 5- to 10- or even 15-grain doses. Exalgin gives good results, but its action must be watched lest it produce collapse. Begin with a small dose (2 grains), which may be gradually increased. Another remedy of the same class is pyramidon. Butyl chloral hydrate is another remedy for reliving pain; it may be given in doses of 5 to 10 grains or even more, and is best administered in solution with glycerin or syrup. Gelsemium sempervirens, in 5-to 15-minim doses of the tincture, may be employed, while gelsemine chloride may be given in doses of 1-200 to 1-100 grain. Aconite has been used with good results. Potassium iodide with bromide salts may be useful. Morphine is only used when all else fails.

Dealing with Placenta Previa.

Higgins (Boston Medical and Surgical Journal) reports five cases of placenta previa. In all the infants were born dead or died at birth, two were hopelessly premature; in two the fetal heart could not be heard; in the other it is possible the child's life might have been saved by rapid delivery, but the life of the mother was placed first. In all these cases slow extraction was employed, as this prevents hemorrhage. He perforates the placenta when it is at all central, performs version and brings down a foot. Traction effectually stops hemorrhage. Perforating the placenta causes little hemorrhage, either to mother or child, and is an easy matter. The under surface of the placenta is divided into lobules with sulci running between, and the placenta is easily separated and perforated at the sulci. As a temporary expedient to control hemorrhage, the author advocates packing. This should be applied with the patient in Sims' position.

Charlotte Medical Journal
EDWARD C. REGISTER, M. D., Editor.
No. 36 South Tryon Street, - - - -
- - - - - - - - - - - Charlotte, N. C.

THE NORTH CAROLINA MEDICAL SOCIETY MEETING.

The Fiftieth Annual meeting of the North Carolina Medical Society was held at Hot Springs, beginning Tuesday, June 2d, 1903, and was in session three days.

In many respects Hot Springs was an ideal place for this meeting. It is reasonably accessible, and is one of the most beautiful nooks in North Carolina. Situated, as it is, on the banks of the French Broad river, surrounded by the tallest of our Bushy Mountains, with their little rippling, restless streams, make it a place indescribably grand, even to the experienced traveler. Mr. Rollins told us that we were in the Switzerland of America. We felt that we were. We appreciated to the fullest the many beautiful things that were in evidence there. We felt more than once that the selection of Hot Springs for our meeting was no mistake; yet there is a feeling, or rather a belief, among the members of the Society that these meetings should not be held in places so far from the center of the State. There are many good reasons for encouraging this feeling. It is easy to observe that the meetings held on the extreme borders of the State are not as well attended as those held in the central parts and in the large cities where the railroad facilities are better.

Next year the meeting is to be held at Raleigh, the most accessible city, from a railroad point of view, in the State. There the people are noted for their hospitality; they know how to make you feel at home, and they know how to arrange a program with many attractive social features. This insures a good meeting. I feel confident that the meeting next year will exceed in attendance any in the history of the organization. While the Society does not expect many courtesies from the local profession where it meets, yet the little social attentions received by the visiting physicians add very much to their pleasure. It is a feature that many of them look forward to and enjoy as much, if not more, than the scientific work that they are supposed to indulge in. This is no more than is natural.

A hard-worked physician,. laboring all the year and having possibly only this one outing or vacation, should not be expected to confine all of his time and devote all of his thoughts to medicine or surgery or any of the subjects discussed at these meetings. He especially enjoys these little social privileges, and they do him good. There has been a disposition on the part of some of the members to discourage these social functions at our meetings. This is wrong. Whenever the State Society meets in Charlotte the members of the local profession here arrange, and always arrange in a substantial manner, to make the social feature of the programme prominent and as attractive as possible. This brings together nearly every member in attendance.

It may be proper, and it may not, for me to say that there is no feature of the Medical Society programme which will bring as many members together as that of the banquet, with its flowers and its delightful music and its brilliant speeches. Here we are in the midst of all environments and sentiments that inspire. It is here that we have heard the most beautiful thoughts expressed, and it is here that we extend to our brothers the most cordial hand-shake.

PRESIDENT'S ADDRESS.

Dr. Knox made a fine presiding officer. He was dignified and deliberate and his rulings showed a familiarity with parliamentary usages. He was quick and accurate in his decisions. He was fair and courteous to every member of the society. From a literary standpoint his style is very attractive. His address did not touch upon unimportant points or dwell upon trivial things. He was far-sighted in adopting the policy which he did in regard to the reorganization of the Society. The time had come and he recognized this fact, that some change in our routine method was a necessity. The important changes in the reorganization of the Society are due in a great measure to his efforts. The writer was particularly pleased with the manner in which he disposed of the subject of reciprocity, licensing boards, etc. There never has been but one plan suggested touching upon this important matter that is at all practical in the writer's opinion and that is the organization of a National Board of Medical Examiners. This idea or plan was forcibly and clearly mentioned in Dr. Billings' address in New Orleans some time ago. If a National Board of Medical Examiners was organized, and they would adopt a very high standard, one higher than that of any State in the Union, and would hold its meetings in the various cities throughout the country, and often, and in places accessible to every student throughout the land, it would soon cause every State Society to recommend that a license from this board be recognized. I believe that within five years every State would have a law to this effect. Many of the States would possibly repeal their existing laws and only require a beginner in the practice to have a license from this National Examining Board. It takes time to bring all of this about. It cannot be done in one or two years. Leaders in these reform movements are conservative men and they are not going to give up something which has proven beneficial for something new and untried. Something that is to a certain extent an experiment. Let the National Board be organized, put it to work, let the medical profession see that its standard is high, that its work is thorough and that a license issued by it means something, then, and not until then will the various licensing boards throughout the country give up their legal rights and the measures which have been so beneficial to the profession and public. There has never been a necessity for the interchange of licenses to the extent that some think. I hardly believe that the experience of the various examining boards of this State will justify the belief that more than 1 per cent. of all the applicants examined by the various boards for the last twenty years were men who had had over five years practical experience. I am glad to say that there are many exceptions to this rule, at the same time I must say regardless of how some may construe it, that a great majority of the men changing their locations after having been in the practice for ten or fifteen years are not representative men. Shall we cripple our state laws or modify them in a way that they will be weakened in order to accommodate this small per cent of inferior men?

With the progressive notions of the medical profession of the State the writer feels confident that within a year every county within its borders will have its medical society with its large membership, thus increasing the size and usefulness of the State Society. In two years our State Society will have a membership of twelve hundred physicians. It has now been on a standstill for a number of years. The membership has been about five hundred for a long time, sometimes a little over and sometimes a little under. This history in itself ought to have suggested that some change was a necessity. We have sixteen hundred physicians in the State. Eleven hundred out of the Society. This statement alone ought to indicate either a renewed effort on our part or new means by which good men can be brought into the Society.

The editor regrets very much that he has been unable to get a copy of the President's address for publication.

BOARD OF MEDICAL EXAMINERS.

Through the courtesy of Dr. Pressly, Secretary of the Board of Examiners, we have the privilege of printing the report of this Board, as submitted to the Society. Its work at Hot Springs was, evidently, very thorough. This is no more than was expected. Its members are fine students of medicine. They are up-to-date physicians, and realize to the fullest extent their responsibility. Out of one hundred and seven graduated men, from reputable schools from the various parts of the country, they passed seventy-six and turned down thirty-one. This means that our new Board has adopted a very high standard, and that it requires a great deal of medical knowledge to pass these examinations. If we will compare this report with the reports we receive from other Examining Boards in other States, we can easily see that our standard in this State is higher than that of any other part of the country. States, or Boards, that put up examinations on the various branches submitting fifteen questions and giving the applicant the privilege of answering any ten of them, and then only requiring him to answer 75 or 80 per cent. of the ten of his selected questions, certainly have a very low standard. Our Board puts up ten questions which are pointed, and carefully and intelligently selected. They are fair, and calculated to measure accurately the medical knowledge of the applicant.

THE NEW PRESIDENT.

Dr. H. B. Weaver, of Asheville, was elected President for the coming year. The Society certainly acted wisely in making this choice. Dr. Weaver has been identified with the various interests of the Society for many years. He has, possibly, done as much toward perfecting our medical laws as any other man in the State. He was the originator of the misdemeanor clause which was incorporated into our medical laws in 1885. This was the most important medical enactment that we have attained. Through it the public and the profession enjoy a protection greater and more valuable than many of us realize. It has practically eliminated from our State the irregulars and quacks. Without it our laws would be practically worthless. We are certainly indebted to a great extent to Dr. Weaver for this state of affairs in North Carolina. If it were not a misdemeanor to practice medicine in North Carolina without a license, how many of our young men would attend the meetings of our State Examining Board? It would be like it was prior to 1885, practically a farce.

THE NURSES' EXAMINING BOARD.

The last Legislature provided for the establishment of an Examining Board for Nurses in North Carolina. This Board is composed of two physicians and three nurses. The physicians are selected by the State Medical Society, and the nurses are elected by the State Nurses' Association. At our meeting at Hot Springs, the State Society elected Dr. J. W. Long, of Salisbury, and Dr. Robt. S. Primrose, of Newbern, members of this Board. At the recent meeting of the Nurses' Association, which was held at Asheville, three nurses were elected to make this Board complete. The Society made no mistake in selecting Drs. Long and Primrose for this important work. They are both prominent medical gentlemen. There has been some question in the writer's opinion as to the real necessity of establishing this Board for the examination of nurses. It will eventually be a necessity, but that is, perhaps, several years in the future. The great trouble now, or certainly is in this city, is to get enough nurses. Even the partly trained nurses have more calls for their services than they can respond to. However, anything that looks like progress, and does not very perceptably cripple private or public interests, ought to be encouraged. We hope to see the good of this recent legislation in regard to nurses.

THE SECRETARY.

The few comments that we have made concerning the Hot Springs meeting of this Society would be incomplete and the writer would feel remiss in his duty if he were to omit the mention of the very proficient work done by Dr. J. Howell Way, Secretary of the Society. He is the right man in the right place, always elegant in his manners and always respectful to every one who comes in contact with him. It was easy to observe that he was master of the many complicated questions that so often came up at this meeting where we were emerging into a new order of things, brought about by the adoption of a new constitution and by-laws. His services in this connection were invaluable to the Society. He had been chairman of the committee on reorganization and was familiar with every proposed change in the constitution. He was in sympathy with the reorganization movement and was always ready with his able reasoning to meet any argument adverse to its adoption.

THE PHARMACOPOEA AND MEDICAL PRACTICE.

The incoming mail of all physicians is flooded with very tastily executed and worded pamphlets, circulars and letters, and the advertising pages of all Medical Journals are padded with the most attractive advertisements, describing myriads of so claimed most remarkably successful and carefully compounded Therapeutic preparations, devised and intended only for physician's use. These preparations, in a large measure, are compounded in each case by partial explanation of the constituents, however, some part of the process of preparation is hidden or known only by the proprietors.

Various devices and strategy are used by which to secure endorsements from physicians, extoling the use and great value in the employment of these various preparations. These endorsements are reproduced and accompany these preparations when they are sent out, or are used as material for the circulars or pamphlets. Plans to have medical articles of clinical cases written up, wherein these preparations under consideration, have been successfully used, after the usual recognized treatment has been found wanting.

According to the well worded advertisement or circular, these preparations are infallible, when used for the conditions indicated or suggested, and in the dosage or methods so carefully worked out by those preparing them. Many of them are elaborated products of the Laboratory and are more or less indefinite in known therapeutic strength and constitution.

The whole scheme is mapped out plainly so that one need not disturb the gray matter of his brain; the only need is to diagnose the case and then to select the preparation and give it as the instructions which are printed and enclosed with the package. This might possibly serve the purpose if all diseased condition was the same in all individuals; but every individual is a rule unto himself and the rational line of treatment must be mapped out by the physician on the ground during the display of the deranged condition.

There is need for every physician to be ever ready to give his patient his most strenuous effort in working out a line of procedure that will be of the greatest service, whether to restore him to good health, or improved condition, or to give comfort whether to restore him to good health, or improved condition, or to give comfort where that only is possible; for the renumeration or gratuity which he will be rewarded or at least in return for this confidence exhibited by the professional engagement or trust reposed by the patient.

The United States Pharmacopaie contains a list of drugs and preparations which will most assuredly meet the indications in all diseases and diseased conditions, as they are understood pathologically to-day. There is no valid reason for going outside of that list of drug remedies, for combatting disease. Other physiological measures will naturally be suggested to the individual physician at the bedside of his patient. In the Pharmacopœa all of the useful, legal and worthy therapeutic drugs and preparations may be found fully described. That list, together with the National Formulary, will answer the exacting requirements of the most thorough practitioner of the day. Let our Pharmacopœa be made more the daily companion of the physician and especially let the young graduate familiarize himself with its contents.

Minutes of the Fiftieth Annual Session of the Medical Society of the State of North Carolina, Held at Hot Springs, N. C., June 2d, 3rd and 4th, 1903.

The Society convened in the ball-room of the Mountain Park Hotel on the morning of June 3rd, 1903, and was called to order at 10 o'clock by Dr. J. M. Manning, chairman of the local committee.

Prayer was offered by Rev. Mr. Jackson, of the Presbyterian Church.

Mayor A. V. Lawson, of Hot Springs, introduced Hon. Thos. S. Rollins, who delivered the address of welcome.

Dr. A. W. Knox, of Raleigh, the President, assumed the chair.

Reply to address of welcome was made by Dr. J. E. Stokes, of Salisbury.

Roll call by Secretary—78 members answering to their names.

President Knox appointed Committees on Credentials and Finance.

Committee on Credentials—Drs. H. B. Weaver, Frank Roberts and P. A. Nicholson.

Committee on Finance—Drs. Frank Duffy, H. H. Harris and J. W. Long.

President Knox delivered the annual address.

It was moved and seconded that the committee appointed to report on the President's address be requested to hand in such report not later than Wednesday morning.

Motion seconded, and carried.

Chairman: I appoint on the Committee on the President's address Drs. S. Westray Battle, P. L. Murphy and Albert Anderson.

It was moved and seconded that the Society now take up the consideration of this proposed plan of new organization.

After some discussion, it was moved and seconded that this matter of the question of reorganization be made the special order for 3 o'clock Tuesday afternoon.

Motion carried.

Reports of Committees were called for.

The Committee on Finance made the following report, which, on motion, was adopted:

We, the Committe on Finance, beg to submit the following report: The Treasurer's books show that he has collected during the past year, $1,230.10
Disbursements, $659.59
Cash bal. on hand, 570.51 1,230.10

The printing and binding of the transactions for the year 1902 cost $406.72. Because of a constitutional provision, the Treasurer could pay out only $300.00 on this account. We, therefore, recommend that he be authorized to pay the balance, $106.72.

The Treasurer's books show a balance due the Society, from members who are in arrears, the sum of $559.00. The names of these members appear upon our roster as accredited members, although some of them are in arrears as much as four years.

We recommend that the per capita assessment for the current year be $2.00.

We further recommend that the salary of the Secretary for the current year be the same as it was last year, $125.00; and that the Treasurer's salary also be continued at the same amount as paid last year, $100.00.

Signed: FRANCIS DUFFY, Chm'n.,
H. H. HARRIS,
J. W. LONG.

Dr. R. H. Lewis: Mr. Chairman, as the President and Chairman of the Committee on Legislation, I would like to say then, Mr. President, that you have already received the report of the Committee on Legislation, essentially, in the report of the Board of Health, a copy of which has been mailed to you. It is hardly necessary to go over the subject. It was the hardest fight we ever had. We received a unanimous and favorable report from the joint committee. It was suggested that we have legal advice, and I saw the Hon. J. H. Pou, one of the ablest and most astute lawyers in the State. He was present at the meeting, and lounging around in the lobbies, apparently taking no special interest, but ready to come to my rescue. After the discussion was over he did not think it was necessary for him to say anything. I went to him for his fee—I employed him personally and individually—and he told me that he charged nothing. I told him not only did I appreciate this, but the profession of North Carolina did, and that I would take a great deal of pleasure in letting it be known how kind he had been in the matter.

Dr. Sikes: If in order, I would like to report under the head of miscellaneous business. According to the constitution of the Society, after members have paid for thirty consecutive years they are entitled to go on the roll of Honorary Fellows. I, therefore, move that that Drs. A. G. Carr, P. L. Murphy and J. F. Miller be placed upon that roll.

The resolution was seconded and carried.

Dr. J. M. Manning: I am informed that Dr. Lewis spent about $40.00. I think the Society ought to reimburse him for it. I, therefore, now move that the Society reimburse Dr. Lewis for the money paid out of his private means.

Seconded, and carried, and the Treasurer ordered to reimburse Dr. Lewis.

Dr. Lewis: I am perfectly willing to contribute that amount to the cause. The expense was in printing, consisting of Mark Twain's article on Christian Science. I also sent out over 600 circular letters to the members of the Society in order to get them to write to their representatives. Those letters were extremely influential. I spent something over $40.00.

Chairman: I suggest that the Treasurer pay to Dr. Lewis the amount expended by him.

Is there any committee ready to report?

Dr. Weaver, chairmain of Committee on Credentials: I present the following as eligible to join the State Medical Society:

Wm. R. Kirk, Hendersonville, N. C.
Lawrence E. Holmes, Biltmore.
J. M. Ledbetter, Rockingham.
Stephen A. Malloy, Yanceyville.
S. S. Royster, Mooresboro.
W. H. Priouleau, Asheville.
W. J. Weaver, Marshall.
A. C. Everett, Pigues.
J. R. McCracken, Crabtree.
R. M. Reed, Gastonia.
L. P. Russell, Fletcher.
Llynn McIver, Sanford.
H. C. Houston, Waxhaw.
H. L. Monk, Spencer.
E. B. Ferebee, Raleigh.
C. S. McLaughlin, Charlotte.
H. H. Briggs, Asheville.
W. M. Jones, Jr., Asheville.
Charles L. Scott, Greensboro.
Edward J. Pick, Hot Springs.
Z. M. Caveness, Greensboro.
A. H. Caveness, Coleridge.
J. P. Adyotte, Earl.
Ethelbert Hooks, Smithfield.
J. W. Carroll, Wallace.
John I. Tucker, Rockingham.
J. W. Childs, Hickory.
Guy E. Dixon, Belwood.
T. L. Northrop, St. Pauls.
Thos. A. Little, Greensboro.
Chas. P. Edwards, Bald Creek.
Guy S. Kirby, Marion.
George W. Reed, Biltmore.
S. A. Wilkins, Dallas.
T. A. Mann, Fairfield.
I. D. McPherson, Liberty.
R. W. Petire, Rupsville.
R. E. Mason, Charlotte.
W. C. Linville, Kernersville.
T. C. Johnson, Tomahawk.
C. H. Hoover, Crimsie.
J. A. Dosher, Southport.
E. J. Wood, Wilmington.
D. S. George, Marshallberg.
J. F. Jones, Thermal City.
J. F. Shaffner, Jr., Winston-Salem.
Arthur J. Edwards, Bristol, Tenn.
E. C. Patterson, Liberty.
Willis Alston, Jr., Littleton.
F. L. Siler, Franklin.
A. B. Drafts, Hendersonville.
Wm. De B. McNider, Raleigh.

I move that these gentlemen be elected members of the Society.

Motion seconded.

Chairman: It is moved and seconded that the gentlemen, whose names have just been read by the chairman of the Committee on Credentials, be made members of this Society.

Motion carried.

Chairman: The gentlemen are requested to come forward and sign the constitution and pay the initiation fee.

It is moved that the Society adjourn until afternoon.

Motion seconded. Carried.

Chairman: The special order for 3 o'clock is the question of consideration of the report of the Committee on the new Constitution and Reorganization. Society is adjourned until 3 o'clock p. m.

Society called to order at 3 o'clock Tuesday afternoon, President Knox in the chair.

Chairman: The special order for the present time is the question of reorganization of this Society in accordance with the plan proposed by the Medical Association, and the consideration of the carefully prepared report of the Committee on New Constitution, whether we will adopt it or not.

Dr. S. W. Battle: Mr. Chairman, I would like to ask if the Committee on the President's Address could not submit their report at this time.

Chairman: Without objection, I should think it would be proper to receive the report. If there is no objection the Committee will report now.

Dr. Battle, chairman of the Committee, presented the following report:

Gentlemen:—Your Committee recommends that the very able and interesting address of the President be handed to the Secretary for publication in the transactions, and it specifically requests that the following resolution in regard to Senator Ransom's tribute to our late confrere, Dr. C. J. O'Hagan, be adopted:

Resolved, That the Secretary of this Society is instructed to write and obtain from Senator Ransom a copy of his address on the life of our late lamented friend and brother, Dr. C. J. O'Hagan, and publish the same in the forthcoming transactions of this Society.

It also recommends that the following resolution in regard to letters of the Hon. W. A. King, chief statician for Vital Statistics, United States Census Office, be adopted:

Resolved, That the Secretary is hereby instructed to acknowledge the receipt of the letters of Hon. W. A. King, and inform him that they had been referred to the State Board of Health for such action as the Board may see proper to adopt. The Board of Health is requested to consider these letters in detail, and, as far as possible, comply with the requests of Mr. King and report progress.

Touching the matter of Medical Ethics, as mentioned by the President, the Committee recommends that it be taken up by the Society and disposed of at this meeting, as a matter of vital importance.

In regard to the scheme of reorganization, it is before the Society, and we heartily concur with the recommendations so ably presented by the President.

S. W. Battle, Chm'n.,
P. L. Murphy,
Albert Anderson.

The resolutions were taken up one by one and adopted.

Chairman: It is moved and seconded that the Secretary be instructed to communicate with Senator Ransom and ask for a copy of bis oration on Dr. O'Hagan, and publish said oration in the forthcoming transactions of this Society.

Motion carried, and the Secretary is instructed to communicate with Senator Ransom.

Chairman: The Secretary is instructed to acknowled the receipt of the letters of the Hon. W. A King and to inform him that they have been referred to the State Board of Health for such action as the Board may see fit to adopt, and that the Board of Health be requested to consider these letters in detail, and, as far as possible, comply with the requests of Mr. King, and report progress.

Seconded and adopted, and the Secretary is instructed to act accordingly.

Dr. Burroughs: I move that you, the chair, appoint a committee of five to consider the Principles of Ethics as approved by the American Ethics, to report at a certain hour named by the chair.

Motion seconded.

Chairman: It is moved and seconded that the chair appoint a committee of five to examine into the question of Principles of Ethics as proposed by the American Medical Association, and report to the Society to-morrow what course seems best to that committee.

Motion carried.

Chairman: The time has now arrived for the special order, which is a question of the consideration by this Society of the plan proposed by the American Medical Association, and fully set forth in the Revised Constitution and By-Laws proposed by your committee of five, appointed at the Wilmington session last year. We can now proceed to consider the question of reorganization. I shall be pleased to entertain a motion looking to the bringing of the matter before the Society in difinite form.

Dr. S. W. Battle moved that the committee appointed last year do now report.

Motion seconded. Carried.

Dr. J. Howell Way, Chairman of the Committee, reported that the Committee had taken the proposed Constitution for State Societies, as suggested by the American Medical Asssociation Committee, and while enroute to the meeting of the A. M. A., at New Orleans last month, they had carefully and critically considered the same in connection with criticisms of the Constitution submittted by invitation from prominent members of the State Society. They had also studied the original Constitution of the North Carolina Medical Society, as adopted in 1849 and amended in 1850; also the various changes made from then to the present time. As a result of their deliberations, they had prepared a complete Constitution and By-Laws embodying the germinal principles asked for by the A. M. A., to-wit: The County Societies to be the unit of organization, and all members of the same to be members of the State Society, by simply the payment of the annual dues of members of the State Society. The State Society to be divided into a Scientific and a Legislative body; the latter to be a body composed of the officers of the State Society and delegates from the County Societies, which body is to be the business branch of the State Society, to transact the business, elect the officers, committees, &c., in short, to perform all the functions of the State Society except the purely scientific work of the body, which would be attended to in the general meetings, which would be composed of all the members of County Societies attending the session. The committee found that this proposed plan of reorganization was not, after all, a very new thing, being with minor modifications the original constitution of the North Carolina State Medical Society as adopted in 1849 and amended in 1850. Dr. Way, for the Committee, also reported that on the previous evening the committee had, at the suggestion of President Knox, held an open meeting, which had been attended by nearly all the members of the Society now present, at which the entire Constitution and By-Laws had been read and considered. He then distributed printed copies of the proposed new Constitution and By-Laws, and moved the adoption of the Committee's report.

Dr. S. W. Battle moved it be adopted by sections.

President Knox suggested that Dr. J. N. McCormack, of the American Medical Association reorganization committee, was present and on the programme for a discussion of this important matter of reorganization, and asked the Society to hear Dr. McCormack's able presentation of the necessity for a more thorough organization of the American medical profession, after which Dr. Battle's motion could be carried into effect.

Dr. McCormack then proceeded to discuss the matter at length, and in a most truly eloquent and able speech advocated the adoption of the committee's report, after which it was very manifest that the majority of the Society present was overwhelmingly in favor of adoption.

Upon the conclusion of Dr. McCormack's speech, the Chairman opened the question to the house, and requested that those who were opposed to the measure express themselves, and speak against the committee's report as strongly as possible.

Dr. Geo. G. Thomas: I am free to confess that this plan had not appealed to me until I heard Dr. McCormack's explanation, and while I am not now—I want to be very frank, Doctor—a convert, I am of that plastic sort of disposition that I shall be very glad for one to give it a full, fair trial. (Applause.)

Dr. E. C. Register: Dr. Albert Anderson has a paper touching upon this subject. Possibly it would be proper for him to read his paper now.

Chairman: I am sure the meeting would be very glad to hear from Dr. Anderson.

Dr. Albert Anderson, of Wilson, N. C., then read a paper entitled, "The Benefits to be Derived from County Medical Societies."

Discussion by Drs. Lewis and Murphy.

Chairman: It is moved by Dr. Murphy, and seconded, that the new plan of organization be adopted unanimously by a rising vote.

Motion carried.

Chairman: It moved by the chair that this meeting extend a vote of thanks to Drs. P. L. Murphy, Geo. G. Thomas and R. H. Lewis, who, in a generous, unselfish and magnanimous spirit, have laid aside their objections. I will move a rising vote of thanks to those gentlemen.

Seconded and carried.

Chairman: It is moved by Dr. Murphy that by a rising vote this Society now adopt the Constitution and By-Laws as reported by the committee under plan of reorganization proposed by the American Medical Association, and so ably presented by our friend, Dr. McCormack, the representative of the Association.

Seconded, and adopted by a rising vote.

Chairmain: The motion is carried unanimously, and the Medical Society of the State of North Carolina has unanimously adopted the plan proposed by the Association.

Chairman: I move that by a rising vote this Society make Dr. McCormack an honorary member of our Medical Society in North Carolina.

Seconded and carried.

Chairman: Dr. McCormack we extend to you membership in the Society.

Dr. McCormack expressed his thanks for the honor conferred.

The paper of Dr. Albert Anderson, was by motion, seconded and adopted, and referred to the Committee on Publication.

Chairman: About the Principles of Ethics. If a committee is to be appointed—if it is your pleasure to consider that at all—the appointment might be made. It might be well to get that out of the way. There was a motion to appoint a committee, but I do not think it was appointed. I appoint as a committee on the Principles of Ethics, Drs. J. A. Burroughs, J. W. Long, E. C. Register, H. A. Royster and Oscar MacMullan.

Chairman desires to know the will of the meeting as to continuing and hearing the papers read, or its pleasure.

Dr. Way: I move we take a recess until 8 o'clock.

Motion seconded.

Chairman: It is moved and seconded that we take a recess until 8 o'clock, when we will reassemble, and the natural order then will be the Annual Debate, which will come first, and after that papers, as per programme.

Adjourned until 8 o'clock p. m.

EVENING SESSION.

The Society was called to order at 8 o'clock p. m., President Knox in the chair.

Dr. A. S. Pendleton, of Warrenton, leader of the Annual Debate, announced as the topic for debate, "Croupous Pneumonia," and opened the discussion by presenting a very instructive paper upon the subject.

A general discussion followed Dr. Pendleton's paper, participated in by Drs. Albert Anderson, C. A. Julian, J. C. Walton, Wm. A. Graham and Dr. ——. Discussion closed by Dr. Pendleton.

Dr. Way called attention to the receipt of a letter from Dr. W. H. Cobb, an esteemed former President of the Society, regretting his enforced absence (due to serious illness in his family) and wishing for the Society a very pleasant and profitable meeting.

The Chairman suggests, out of respect to Dr. McCormack, who leaves next day on the 2 o'clock train, and is very desirous of hearing the address, that Dr. Chas. Wardwell Stiles, M. H. S., Washington, D. C., be asked to deliver his lecture on the Hookworm Disease (Uncinariasis) with demonstrations.

This suggestion is favorably acted upon by the meeting, and Dr. Stiles delivers his address, which is most favorably received, and, on motion, ordered printed in the transactions.

Upon motion, duly seconded, the meeting adjourned until 10 o'clock a. m., Wednesday.

WEDNESDAY, MORNING SESSION, June 3.

Meeting called to order Wednesday morning at 10 o'clock, President Knox in the chair.

Chairman: I appoint on the Committee on Nominations the following: Drs. John Rodman, J. E. Stokes, H. A. Royster, D. T. Pate and Isaac Taylor.

The chair suggests the propriety of election of officers for the ensuing year. It being a very important matter owing to the work resulting from the adoption of the new organization. Calls attention to the fact that several gentlemen have determined to leave on the afternoon train. Suggests that though this be on the programme for the regular business of Thursday, that it be considered now.

Thereupon it was moved and seconded that the Society proceed to the election of officers at 11 o'clock, or just before 12 o'clock—just before the meeting of the Board of Health.

Chairman: It is moved and seconded that at 11 o'clock this morning we proceed to the election of officers.

Motion adopted.

Chairman: The chair announces that 11 o'clock is the hour appointed for the election of officers.

The report of the chairman on Chemistry and Physiology is in order. Not present.

Report of the chairman on Pathology and Mocroscopy is in order. Not present.

The excellent paper of Dr. J. H. Manning of Chapel Hill, on "The Clinical Examination of the Blood and its Possibilities," was read by title.

Dr. C. L. Minor's paper on "The Use of the Private Clinical Laboratory by the General Practitioner—Its Value and Limitations, with Practical Suggestions as to its Equipment and Management," was also read by title.

"The Relationship of Micro-organisms and Human Beings in Health and Disease," by Dr. Paul Paquin, Asheville, is in order.

Dr. Paquin having gone to Asheville, the paper is read by title.

An instructive Clinical Report on "Twenty cases of Puerpereal Eclampsia," by Dr. L. B. McBrayer, Asheville, was then read.

The Board of Examiners, through the President, Dr. M. H. Fletcher, presented their regular annual report.

The paper, "Fever Following Confinement," by Dr. J. A. Williams, Reidsville, read by title.

The Chairman announced that the hour for the election of officers had arrived, when, on motion, the Society proceeded to the election of officers.

Dr. MacMullan: Mr. President, I desire to make the nomination for President for 1904. When I contemplate the wealth of the material before me, it seems to me out of so many good men hard to discriminate; but, sir, I think the sense of the time, and the occasion, points most strongly to an individual, and that is Dr. Weaver, of Asheville. Dr. Weaver, from his first joining this Society, way back in 1881, until the present moment, has been one of the staunchest members and most faithful workers this Society ever had. Dr. Weaver will make an ideal President. In physical constitution he is a handsome man. He is a brilliant man. In the kindness of his soul, in the firmness of his will, he will preside over us with dignity and pose. There is no need of fulsome compliment from me for Dr. Weaver, of Asheville. His open life has been an open book, to be read by us, and that, sir, is a sufficient recommendation for this gentleman.

Dr. Whittington: Mr. President, I will not make a speech in commendation of our friend, neighbor and co-laborer, Dr. Weaver, as the gentleman has said so much that I expected to say, that I desire to say that I will take the Society's time except to endorse what my brother has said, and say that we of Asheville most heartily recommend Dr. H. B. Weaver for President of this Society.

Dr. Rodman: Coming from the far East, I desire also to second the nomination of Dr. Weaver for President of the North Carolina Medical Society. A most excellent gentleman.

Dr. J. W. Long: I desire to endorse the nomination of Dr. Weaver, of Asheville.

Mr. Chairman, his very name implies that he is a master workman—indeed, Mr. President, I have seen some beautiful specimens of his handiwork in his own household. (Laughter.) And I desire to say further, Mr President, that on this most auspicious occasion of our Medical Association, when we are being born from old organization into the new, and when there is so much to be done, that this man will prove a workman who shall weave into a beautiful fabric the new organization under our new constitution, and he will produce a garment which will be beautiful and useful, and of intended service, for the sake of North Carolina.

It was then moved that the rules be suspended and Dr. H. B. Weaver be elected by acclamation as the next President of the Medical Society of the State of North Carolina.

Motion seconded, and Dr. Weaver was unanimously elected.

Dr. Weaver thanks the meeting for the honor bestowed upon him.

Chairman: The report of the committee on Finance will be heard, if there are no objections.

Chairman presents report. Read.

Dr. J. H. Williams: I move the reception of the report.

Motion seconded.

Chairman: Next in order is the election of Vice-Presidents. Nominations are now in order.

Dr. Whittington: It seems that nobody wants to make the nominations. I suppose there are no candidates, but I rise to put in nomination a man that is well known by almost every member of this Society, a man who is a gentleman, who is a handsome man, a man who is a great Sunday School teacher and an orator, and a bright man, J. W. Long, of Salisbury.

Dr. Sawyer: I move that the rules be suspended, and that we elect Dr. Long Vice-President by acclamation.

Motion seconded.

Chairman: It is moved and seconded that the rules be suspended and Dr. Long be declared First Vice-President by acclamation.

Carried.

Dr. Kent: I wish to put in nomination one of the very best men of this Society. He is so well known that no words of encomium would add to the esteem in which that man is held by the members of this organization. He is Dr. Oscar MacMullen, of Eastern North Carolina.

Dr. MacMullan: Pardon me, sir, but as much as I appreciate the courtesy that the gentleman has done me, still I have already enjoyed that distinguished honor, and I think it would be best to disseminate our favors. There are so many gentlemen here that are more deserving of these honors. I will be glad to see them distributed. Of course no one appreciates a thing like that more than I do, and I am not saying that I decline, because there is no honor that this Society might show me, nor duty for me to discharge, that I would not accept with avidity, but there are other people here.

Dr. ———: I would like to place in nomination next Dr. John Rodman.

Motion seconded.

It is moved that the rules be suspended and Dr. Rodman elected by acclamation.

Motion carried, and Dr. Rodman is declared the Second Vice-President of this Society.

Dr. ———: I would like to bring before the minds of this convention, this morning, the name of a young man whose brilliancy is unexcelled, a young man of the very highest attainments, coming from the best part of North Carolina, the name of Dr. S. F. Pfohl, of Winston.

Seconded.

It is moved that the rules be suspended, and that Dr. S. F. Pfohl be elected Third Vice-President.

Motion carried.

Chairman: Nominations for Secretary are now in order.

Dr. McBrayer: I notice that the constitution provides that the Secretary hold office for three years, and just at the present time it is the most important office in the Society, because his work and duties will be very onerous in the perfection of this reorganization, and we will need a man not afraid of work, and will give his time to it, without which this organization can never be successful. In our present Secretary we have that man, and it gives me great pleasure to place in nomination the name of Dr. J. Howell Way for Secretary.

Seconded.

It is moved that the rules be suspended and Dr. Way be elected by acclamation.

Motion carried.

Chairman: Dr. Way is the next Secretary.

The next business is the nomination of a Treasurer. Nominations are now in order.

Dr. Harris: Mr. President, I move that our Treasurer, Dr. G. T. Sikes, a most efficient one, be re-elected—that the rules be suspended, and that he be elected by acclamation.

Seconded and carried.

Dr. Lewis: I wish to call the attention of the Society to the fact that the last Legislature enacted a law creating a Board of Examiners for Trained Nurses, and under the provisions of that act it is necessary for this Society to elect two of its members to serve on that Board. The other three members are elected by the Nurses' State Association. (Dr. Lewis suggests that no one be elected that is connected with any training school).

It is moved that the Society go into the election of two members to serve on the Board of Medical Examiners for Nurses.

Seconded and carried.

Chairman: Nominations are now in order for the Board of Examiners of Nurses.

Dr. Duffy: I desire to place in nomination for one of those, Dr. R. S. Primrose, of Newbern. He is one of my near neighbors, and I feel sure that you could get no better man for the place. I take great pleasure in putting him in nomination.

Seconded.

Dr. ———: I rise to put in nomination a man that I think will fill this position to perfection. No man in North Carolina is perhaps capable of filling the position better; a man who knows what a trained nurse should be. I refer to Dr. J. W. Long, of Salisbury.

Seconded.

Dr. Battle, of Asheville: I would like to make the nomination of a gentleman eminently fitted for the place, Dr. W. H. Prioleau, of Asheville.

Seconded.

Chairman: Any other nominations? If not, the names of the nominees for the position of the Board of Examiners for Trained Nurses are Dr. R. S. Primrose, of Newbern, Dr. J. W. Long, of Salisbury, and Dr. W. H. Prioleau, of Asheville. Remember that only two can be elected to that office.

Upon the casting of the ballots, it is announced that Dr. Long received 37 votes; Dr. Primrose, 51 votes; Dr. Prioleau, 35 votes.

Chairman: Drs. R. S. Primrose, of Newbern, and J. W. Long, of Salisbury, are declared elected.

Chairman: I am informed that the Committee on nominations is ready to report.

It is moved that they be heard from.

Seconded and carried.

Report read by Dr. Rodman.

The Committee on Nominations recommended the following appointments for the ensuing term:

Orator—Dr. C. A. Julian, of Thomasville.

Essayist—Dr. J. G. Blount, of Washington.

Leader of Debate—Dr. J. A. Williams, of Reidsville.

Committee on Scientific Work—Drs. J. Howell Way, Waynesville; James Sawyer, Asheville; A. W. Knox, Raleigh.

Committee on Public Policy and Lesislation—Drs. R. H. Lewis, Raleigh; P. L. Murphy, Morganton; George G. Thomas, Wilmington; H. B. Weaver, Asheville; J. H. Way, Waynesville.

Committee on Publication—Drs. J. H. Way, Waynesville; E. C. Register, Charlotte; H. McKee Tucker, Raleigh; George W. Pressly, Charlotte; W. H. Wakefield, Charlotte.

Committee on Obituaries—Drs. C. M. Poole, Craven; H. H. Harris, Wake Forest; K. P. Battle, Jr., Raleigh.

Committee on Finance—Drs. James A. Burroughs, Asheville; T. E. Anderson, Statesville; Frank Duffy, Newbern.

Member of Committee of Arrangements for Session 1904—Dr. H. A. Royster, of Raleigh.

Delegates to American Medical Association—Drs. J. H. Way, Waynesville; Albert Anderson, Wilson.

Delegates to Virginia Medical Society—Drs. H. A. Royster, Raleigh; J. A. Coggleshall, Henderson; Jas. A. Burroughs, Asheville.

Delegates to South Carolina Medical Society—Drs. J. M. Ledbetter, Rockingham; D. M. Prince, Laurinburg; J. P. Munroe, Davidson.

On motion, the gentlemen suggested by the Committee on Nominations were declared elected.

Dr. C. A. Julian presented the following resolutions, which were, on motion, seconded and declared adopted by the Society:

Resolved, That the new Constitution and By-Laws shall take effect from and after the adjournment of this session, except that the present President shall appoint the ten Councillors provided for to serve one year, or until their successors are elected by the House of Delegates in 1904.

Resolved, That the Council be requested to meet, organize, map out its work for the coming year, and to report its plans to this Society, for the information of members, before final adjournment.

Resolved, That the President and Secretary of this Society be authorized to issue charters to such County Societies as may be organized during the year upon the approval of the Councillor of the district in which the Society is located.

Resolved, That the Secretary be hereby authorized and instructed to send a copy each of the new Constitution and By-Laws for State and County Societies to each member as soon as the same can be printed, to procure the necessary blanks and forms for putting the new plan of organization in operation, and to supply each Councillor with so much of all these as may be needed in their work.

Resolved, That this Society endorses the Constitution and By-Laws for County Societies promulgated by the American Medical Association, and recommends it for its adoption uniformly in this State, with such changes as may be found necessary to meet local conditions.

Chairman: I appoint as Councillors for the Society, under the new plan, the following named gentlemen. They are taken by districts, and the numbers, one, two, &c., on up to ten, represent the district by number:

1st District—Dr. Oscar McMullan, Elizabeth City.

2nd District—Dr. D. T. Tayloe, Washington.

3rd District—Dr. F. H. Russell, Wilmington.

4th District—Dr Alb. Anderson, Wilson.

5th District—Dr. J. F. Highsmith, Fayetteville.

6th District—Dr H. A. Royster, Raleigh.

7th District—Dr. E. C. Register, Charlotte.

8th District—Dr. H. S. Lott, Winston.

9th District—Dr. T. E. Anderson, Statesville.

10th District — Dr. J. A. Burroughs, Asheville.

Chairman: The next thing in order, gentlemen, is the next place of meeting. What is your pleasure?

It is moved that the matter be taken up.

Seconded and carried.

Dr. Royster: I rise for the purpose, in the absence of Dr. Tucker, of giving a cordial invitation to the North Carolina Medical Society to meet in Raleigh in 1904. I do this for two reasons, first, because we all want the Society to come there; second, we deserve this in our turn, as we usually rotate from town to town about every ten years. I want to make an explanation here which I think will give the meeting to Raleigh. Last year at Wrightsville, at Dr. Laird's request, in order that we might meet in this beautiful mountain resort, we did not press Raleigh, Dr. Laird then promising that he would consider that all his efforts were promised to give Raleigh the Society this coming year. Our last time at Raleigh was in 1893, therefore, this time takes the place of the one which we should have had last year. I have only to add one word to make every one of you vote for the Capital City, and that is, Mr. Howell Cobb will have the Yarborough on the 1st of December. I am authorized by him to say that there will be no hotel in North Carolina in six months that will compare to it. He is going to spend $25,000 in improving the hotel.

Dr. ———: I don't know whether it is time as yet to move to adopt any such suggestion, or whether we are waiting for further nominations. I should like to move that we go to Raleigh next year.

Dr. Duffy: Mr. President, I desire to make a nomination, sir, or at least to extend an invitation from the City of Newbern. I think we would all be glad to go to Raleigh. We have always had pleasant times there, but one great reason Dr. Royster has mentioned for going there applies with very much greater force to Newbern. It has been sixteen years since the Medical Society met in Newbern, and I have placed in nomination Newbern several times, but there always seems to be some more successful place. We have no medical organization there, but I saw the doctors and the citizens before leaving, and I want to assure you that we will all be very glad to see you there if you will accept our proffered hospitality. I think we have enough house room there, hotels and houses of that kind, to take care of the Society, and we will be glad if you will meet with us in 1904.

Dr. ——— · I desire to thank Dr. Royster, and through him the Academy of Medicine of Raleigh, and I hope the Medical Society will cast their votes to meet in Raleigh, because it is the most central part of the State, and accessible to the most Eastern and Central parts of the State.

Resolution to go to Raleigh seconded.

Chairman: What is your pleasure, gentlemen? I did not hear any second to Drs Duffy's invitation. I believe there wa. none.

Dr. Duffy's invitation is seconded.

Chairman: What is your pleasure, gentlemen, that we shall meet in Raleigh or Newbern?

It is moved and seconded that the Society meet in Raleigh in 1904.

Adopted.

Chairman: Apparently they will meet in Raleigh. It is so decided.

Chairman: The members of the Council, under the new order of the Constitution and By-Laws, will meet immediately in the room at the right hand of the hall at the rear of this room.

The hour has now arrived for the conjoint meeting of the State Medical Society with the Board of Health. Officers will please take their chairs.

CONJOINT SESSION OF STATE MEDICAL SOCIETY WITH STATE BOARD OF HEALTH.

Dr. George G. Thomas, President, in the chair.

Chairman: I do not desire to make any remarks in opening this meeting, except to renew again the thanks which were offered to Dr. Stiles for his great help to us by presenting the different phases under which that serious disease, hook-worm, can be known and cared for. I think his visit is an epoch in the history of North Carolina and of the South, and I think he deserves from this meeting, especially from the Board of Health, assuredly very decided gratitude, and he may be assured of our continued esteem.

Dr. Knox: I desire, as President of the Medical Society of North Carolina, to most heartily second the motion, and regret not making the same remarks last evening, but, owing to the Doctor's leaving so soon, rather confused matters.

Chairman: The report of the Secretary is now in order.

The report is read by Dr. R. H. Lewis, Secretary.

Chairman: You have heard the report. Are there any remarks to be made thereon? If not, what is your pleasure? I would be glad to hear from any of the members in regard to any difficulties they may meet in the performance of their duties, especially in the management of small-pox.

Dr. J. M. Manning: Six years ago when small-pox made its appearance in the State, I unfortunately happened to be the Superintendent of Health of Durham, and the first cases occurred in Durham county. I remember the circumstance of a man who came there from Greenville—ran the blockade from Greenville and came to Durham, his old home. Of course, when the news got out in the city that there was a case of small-pox, there was quite a scare among the citizens. We were totally unprepared to take care of a case of contagious disease. We had no pest house. The mayor and myself rode all over the neighborhood and the county to locate a tent, and we were met with shot guns wherever we proposed putting a tent, but finally the county owned a small strip of land, half a mile from the county home, and we succeeded in establishing a pest house in the shape of a tent. With the active co-operation of the city and county authorities, and the management of the different manufacturies in Durham, we succeeded in vaccinating a large proportion of the citizens of the town, and that epidemic—I can hardly call it an epidemic—was stopped. We set fire, by kerosine oil, to one of these houses near the market house, in the central part of the town, and we had the water supply to prevent any fire from other buildings. In that epidemic we only had ten cases. We succeeded in getting the epidemic stopped. Since then they have adopted a different mode of managing cases of small-pox, and a method that I can't very heartily approve. The county and city authorities share conjointly the expense of the small-pox epidemics, and they became alarmed about the amount of it, so the plan—the method now used in Durham—is to send a case of small pox to the pest house and vaccinate the other inhabitants of the house, and disinfect them as much as possible, and turn them on the community. Whether that is very effective, I am not prepared to say. Those cases are kept on the quiet and you really do not know what is going on.

Dr. Battle asks Dr. Carl Reynolds to give his experience—who he says is rather bashful.

Dr. Carl Reynolds: Mr. President and gentlemen, I am a little bashful, but, as it has happened, I have had quite a little experience with small-pox in Asheville, North Carolina, for the past five or six years. I have had three cases of confinement, coming to maturity, and three miscarriages, and have never lost mother or child. In about four or five hundred cases altogether in the last five years I have only had one death, and I doubt seriously if I would have had any at all if the parents had been truthful. The cases were reported—a family of nine. I went immediately to the house of suspects and vaccinated them all. They claimed that every member of the family had been vaccinated. I examined them, they had scars. I revaccinated them. They smuggled under the bed-clothes a child about four months of age. Three or four days thereafter this mother broke out with small-pox, and the entire family was sent to the pest house, and on the next day, on my visit, I found this nursing babe who had never been vaccinated. I vaccinated the child in three places, neither of which was successful, the child developed small-pox and died in ten days. I thoroughly believe that if that child had been vaccinated with the rest of the family it would have been living to-day. My experience with small-pox for the last five years is that I have never seen a case in the pest house that had been successfully vaccinated, not even a case of variloid, that had been successfully vaccinated in the last five years. One case I vaccinated five times. Turned him out twice. It was, in my opinion, a fight between the vaccine and the small-pox. He developed twelve bumps, and was well in about twelve days. Vaccination is the thing, gentlemen, and unless we have the hearty co-operation of all our brother physicians, both in the cities and the counties, we will have with us forever small-pox. We have had quite a struggle in Buncombe with the outside physicians on account of small-pox being mild in form. They say it isn't small-pox, but chicken-pox, &c., and consequently do not enter with us in the work of vaccinating the people. But in the city of Asheville—it has been thoroughly vaccinated twice within the last five years—and I venture to say there are not 300 people in the 15,000, unless they have come into the city within the last six months, that were not successfully vaccinated, and for the last eight months I have not received a single case of small-pox that has not come into the city since our last vaccination. There is one thing that I would like to touch upon while I am on my feet. I think I wrote to Dr. Lewis about it. We ought to have a law compelling the common carriers, all railroads, to compel every member of their force to be vaccinated; and until we do have the railroad people viccinated that come from one place to another, carrying these germs and dropping them down, we will continue to have small-pox. That is very important and essential. Another thing, Mr. President, I would like to give a little estimate of my care of the small-pox, that is relative to the expense. These gentlemen who are laughing behind me know the reason. I had in my care 227 cases of small-pox, and the expense per capita—they stayed in the house from two to three weeks, one man was in there eight weeks—including their maintenance, food, fuel, fire, guard service, physician's bill, vaccine, formaldehyde, etc. —everything, the sum total per capita per diem was 40-7.10 cents per day. What do you think of that? I think it was very reasonable, but when they began to look around again for a new health officer they accused me of highway robbery—bleeding the city of Asheville; so I thought I would come down in this Society and tell you about it, that you had better be careful when you treat cases of small-pox. 40-7.10 cents was my average cost for the treatment of 227 cases.

Chairman: Many refuse to submit to vaccination because of the serious arms which have followed the practice, and that in turn seems to have been the result of very bad vaccination. We were told by Dr. McCormack that he himself, and probably a number of others who were interested with him, were considering the return to the use of humanized virus. Lately the Marine Hospital Service has published a bulletin setting forth some examinations made in the different outputs of manufacturers that were manufactured in this country. I would be glad if Dr. Stiles would tell us what he knows of the subject.

Dr. Stiles: There is one principle that I hold to in life, and that is to not talk too much about that I know little about. This work was done by my colleague, Dr. Roscreans, and to sum up his results in a very few words, he found when he began the investigations that the vaccine virus was not so free from bacteria as we had a right to expect. He presented a paper on the subject before the Medical Society, giving his results, and that stirred up the manufacturers of the virus to a considerable extent. He made an examination a year later and found that the virus was very much more pure, so that his investigations seem to have had a very good effect upon the manufacturers, and it is certainly hoped on the part of the men interested in that particular investigation that this effect will be lasting. With reference to the relative value of the bovine and human virus I have a decided hesitancy in discussing the subject before men who have had so much more experience in that matter than I have. It is, really, entirely out of my special line of work, and I would not want to say anything to prejudice either the one way or the other. I think that the Board of Health is in a much better position to speak authoritively upon the subject than I am.

Dr. Butler: Mr. President, I came to this meeting at your suggestion yesterday on the train, not with the intention of doing any talking. I came here rather for the pleasure of listening and learning. I do not know that I have anything new to make on the subject that you are not already familiar with. You know that since last year investigations have been going on in regard to the intermissibility of bovine and human tuberculosis, but I do not know if anything has been done that you are not perfectly familiar with, and I would not wish to take up your time discussing it. The tendency is to show that the danger which was once fancied to exist from the consumption of the products of the lower animals is not nearly so great; that there is little danger perhaps, yet I think the result of investigations shows that there is danger, and some of the recent work seems to confirm it. * * The tendency of recent research was to prove that there did exist some danger, and while I am chiefly interested myself from a veternary standpoint, even if there was no possibility of communicating it to man, still I do not think the physician can afford not to take the advise that has been given us, and use all precaution as to communication of bovine tuberculosis to the human family. I certainly think we ought to strictly supervise the products from the dairy.

Chairman: Any other remarks, gentlemen?

Dr. R. H. Lewis: I would like to offer the following resolution:

Resolved, That the conjoint session of the North Carolina Board of Health and the State Medical Society adopt, in so far as the local conditions will permit, the recommendations of the Chief Statistician of the U. S. Census Bureau as to collection and registration of vital statistics.

Seconded and adopted.

Chairman: Any further business before the house?

Some discussion, raised by Dr. Carl Reynolds, as to the one who should furnish certificates so be placed on coffins. Dr. Lewis states that there is no law. It is the general opinion of the members that the undertakers are the ones who should furnish such certificates.

It is moved that the conjoint session of the State Medical Society and State Board of Health adjourn.

Seconded and carried.

AFTERNOON SESSION.

Society called to order at 3 p. m.

Chairman: The Committee on Ethics is ready to report.

Dr. J. A. Burroughs, Chm'n: It was discovered that in the new Constitution that was adopted on yesterday, chapter 12 of the By-Laws reads as follows:

"*Rules of Conduct*—The principles set forth in the Declaration of Principles of Medical Ethics of the American Medical Association shall govern the conduct of members in their relations to each other and to the public."

So that your committee felt that their work had really been done, and that these medical principles had been adopted when we adopted the new constitution.

Chairman: That seems to me a correct interpretation. Unless objected to, it will be so decided.

No objection.

Dr. Long: I want to say a word. The immortal Vance once said that he was always willing to divide with his friends from a shilling up to a fight. And I do not think it sacrilege to say that I am like Vance. The Society honored me this morning with an election to two offices, and after thinking over the matter, and without suggestion from any one else, I feel that I owe to the other members of the Society, to tender my resignation from one of those. I rise to tender my resignation as First Vice-President. For two reasons—first, because I have heretofore served in the capacity of First Vice-President of this Association. The other reason is that I would rather have the pleasure of talking to the ladies, the nurses, than to preside over a body of men. So I thank the Society for the honor and tender my resignation as Vice-President.

Chairman: Dr. Long's resignation is very gracefully stated, as all his remarks are, and without objection his resignation will be accepted.

Resignation accepted.

Chairman: The next in order is Anatomy and Surgery. Chairman's report by Dr. J. Meigs Flippen, of Salisbury.

Dr. Flippen read a paper entitled, "Appendicitis from the General Practitioner's Standpoint."

Discussion by Drs. H. A. Royster, John H. Williams, Dr. ——— and J. E. Stokes. Dr. Flippen closed the discussion.

Chairman: Paper by Dr. C. A. Julian, of Thomasville, on "A Consideration of Injuries as seen in Wood-working Factories." Paper read.

Chairman: Next in order will be a paper on "Traumatic Occlusion of the Nares." Report of two cases. By Dr. Kemp P. Battle, Jr., of Raleigh. Paper read.

Dr. Weaver: I see that Dr. Parrott is in the house. Doubtless the Society would be glad to hear from him.

Chairman: Without objection we would be glad to hear from Dr. Parrott.

Paper read by Dr. J. M. Parrott, of Kinston, on "Some Remarks on Treatment of Harelip."

A very instructive paper was read by Dr. A. J. Crowell, entitled, "Surgery of the Prostate Gland.'

Chairman: The next paper is by Dr. David T. Tayloe, of Washington, on "Apparently Bold, but Successful, Surgery in our Rural Districts."

Dr. Tayloe: I regret very much, but you will have to excuse me for not reading my paper. It was to have been here last night. I left it to be type written. I don't know where it is; perhaps in Washington. If I had it I would be glad to read it.

The following papers were read by title and referred to Committee on Publication:

"Remarks upon Appendicitis, Particularly its Treatment," Dr. Frank T. Merriwether, of Asheville.

"Technic of Abdominal Surgery, and the After-Treatment," Dr. Wm. Reddin Kirk, Hendersonville.

"Apparently Bold, but Successful, Surgery in our Rural Dlstricts," Dr. David T. Tayloe, Washington.

Chairman: The next paper is by Dr. P. A. Nicholson.

Dr. Nicholson read his paper entitled, "Traumatic Tetanus."

Paper by Dr. J. Howell Way entitled, "Successful removal of a knife blade one and five-eighth inches in length from the brain eight days after its introduction," read by title and referred to committee on publication.

Discussed by Drs. Oscar McMullan, D. T. Tayloe and Tait Butler.

It is moved and seconded that the Society adjourn until 8 o'clock p. m.

Motion carried.

EVENING SESSION.

Society called to order at 8 o'clock.

Chairman: Ladies and gentlemen, it is my pleasure to introduce to you the orator of the evening, Dr. Joseph Graham, of Raleigh. (Applause.)

Dr. Graham then delivered the Annual Oration, on "The Causation of Disease."

On motion, it was referred to the Committee on Publication.

Dr. Burroughs: I move that we take up the papers on Tuberculosis to-night, making a symposium of these papers.

Motion seconded.

Chairman: It is moved and seconded, gentlemen, that the ordinary routine of business on the programme be temporarily displaced, and that the papers on Tuberculosis, constituting a symposium on that very interesting subject, be now taken up.

Motion carried.

Dr. Carl V. Reynolds, of Asheville, then read a paper on "Drugs in the Treatment of Tuberculosis."

It is moved and seconded that to save time it is suggested that the discussion of these papers be postponed until all have been read. Motion carried.

Paper read by Dr. Guy L. Hunner, of Johns Hopkins, Baltimore, entitled,———

Chairman: I just have a message from Dr. Picot, of Littleton, to express his regrets that he is detained at home by sickness.

Chairman: The next on the programme is "Problems in the Study of the Etiology and Pathology of Pulmonary Tuberculosis, upon which are based the early Diagnosis and Treatment of the Disease," by Dr. H. B. Weaver, of Asheville.

Dr. Weaver reads the above paper.

Chairman (interrupting Dr. Weaver): The time is up, Dr. Weaver.

It is moved and seconded that Dr. Weaver be invited to continue his paper.

Seconded and carried.

Chairman: As the Committee on Obituaries is absent, I would be glad if the following gentlemen would serve: Drs. C. M. Poole, J. W. Long and A. G. Carr.

Chairman: Next is, "Things to Consider Before Sending a Tuberculosis Patient Away for Treatment," by Dr. M. L. Stevens, of Asheville.

Paper presented by Dr. Stevens.

Chairman: The papers are open for discussion.

Dr. Poole: Several years ago I introduced a resolution before this Society requiring the Publication Committee to print the transactions and that they should not be over 50 cents per copy. They have found in the last three years, since everything has advanced, that there is always a bill to meet outside of that. This year it is $107.00 over and above 50 cents per copy. I want to offer the following resolution:

Resolved, That the standing resolution fixing the price for printing the transactions of this Society at a price not to exceed 50 cents per copy be rescinded, and that this matter be left in the hands of the Committee on Publication, who shall let the contract to the lowest bidder, after having submitted it to at least three reputable publishing houses.

Resolution read, seconded and carried.

It is moved and seconded that the Society adjourn until Thursday morning, 9 o'clock.

Motion carried.

THURSDAY, MORNING SESSION, JUNE 4.

Meeting called to order at 9 o'clock.

Dr. Williams: Dr. Holmes, of Biltmore, is present this morning, and he has his paper with him, and I am sure the Society would be glad to hear from him.

Chairman: Dr. Holmes.

Paper on "Post-operative Pneumonia," by Dr. Lawrence E. Holmes.

Chairman (interrupting Dr. Holmes): Time is up.

It is moved and seconded that Dr. Holmes be allowed an extension of time. Carried.

Dr. Holmes' paper discussed by Dr. Jno. H. Williams.

Dr. J. W. Long, of Salisbury, read a paper on "Intubation—its value—its status as a Surgical Recourse. Preparation of the Surgeon—Intubation outfit—Special Points Worthy of Mention—Management of a Patient wearing an Intubation Tube—Retained Tubes. Report of cases."

Chairman (interrupting): Time is up.

It is moved and seconded that Dr. Long be invited to continue his paper.

Motion carried.

Paper by Dr. H. H. Briggs, of Asheville, on "The General Practitioner in Relation to Opthamology."

Dr. Burroughs: I wish to say that I appreciate Dr. Briggs' paper as far as I am able of appreciating it. It is certainly a well-gotten-up paper, but my judgment is that there is no one in the hall who is prepared to discuss it. I certainly thank him very much for presenting it to the Society.

Chairman: The hour for the installation of the new officers has arrived. I desire to thank the house for its kindness, and to express the great pleasure, personal pleasure, I shall feel in having you in my own town next year, in Raleigh. You will find the latch string on the outside of the door for every member of the Society.

The new President will be conducted to the chair by Drs. Parrott and Burroughs. (Applause.)

Dr. Weaver: Gentlemen and brethren of the State Medical Society of North Carolina, words are inadequate in expressing to you my sincere thanks in your confidence in electing me to this high position—the highest in the gift of this Society. I assure you that I am profoundly touched with this high mark of respect and compliment. All I can say is that I will do my best in endeavoring to execute your Constitution and By-Laws while presiding over this honorable body, and I beg of you your forbearance and assistance in the promulgation and the prosperity and the uplifting of the old "Tar Heel" State of North Carolina.

(Applause.)

Paper read by Dr. T. E. Anderson, on "A Plea for the Early Recognition of Pleuritis."

Discussion of the paper by Dr Burroughs.

Dr. Kirkpatrick's paper, "Hodgkin's Disease," was read by title.

Dr. Edwards' paper on "The Normal Salt Solution," read by title.

Dr. Burroughs: If I am in order, which I do not know that I am, I wish to get some information. I understand that Dr. W. J. Long was elected First Vice-President yesterday, and resigned. There has not been any one elected to fill his place. In view of the fact that the President of the Association this year will have the hardest work that any previous presiding officer ever had, I think it is eminently proper (because the First Vice-President is going to be the man who will have to preside over these meetings for another year, as the President will have to preside over the House of Delegates), that he should be closely associated with the President. I wish to nominate Dr. John Hey Williams, of Asheville.

Seconded.

Chairman: It is moved, for the reasons stated, which it is not necessary to repeat, that Dr. John Hey Williams, of Asheville, be elected First Vice-President of the North Carolina Medical Society. Carried.

Chairman: Dr. Williams is elected.

Chairman: Next order of business is report from chairmon Dr. S. E. Koonce, of Wilmington, on "Materia Medica and Therapeutics. Not present.

Paper on Hydro-Therapy, with some Clinical notes, read by Dr. J. C. Walton, Chase City, Va.

Dr. Walton's paper discussed by Drs. Parrott and Dodson.

Chairman: Next in order is the report of the chairman on Gynæcology.

Dr. Highsmith presented a paper entitled "Some Remarks Upon Gynæcelogy." Discussed by Dr. J. W. Long and others.

Dr. Stanton's paper, entitled "The Medical Side of Gynæcology," was read by title, owing to the unavoidable absence of the author.

Dr. Dickinson's paper was also read by title, upon the theme of "The Surgical Side of Gynæcology."

Dr. H. A. Royster read a paper on "A Study of Salpingitis."

Discussion by Drs. Stiles and Hunner.

Dr. H. S. Lott presented a paper on "The Perinaeum." Discussed by Dr. Hunner.

Dr. Guy L. Hunner's paper on "Fibroma of the Ovary," read by title.

Dr. Burroughs: There is a question I would like to put. The number is rapidly thinning. The amount of $25.00 is provided for the services of a stenographer, but, in this instance, no stenographer could be had, as we were to meet in the country, and we had to have one come down from Asheville. I promised that I would also see that his expenses were paid. I understand that his expenses are between $5.00 and $6.00. I move that his expenses be paid, and that the Secretary instruct the Treasurer to pay him $5.00 additional for his expenses.

Motion secconded and carried.

Dr. Way: I think it would be a delicate and pleasant way of honoring the distinguished gentleman who has just presided over this body, to have his picture as the frontispiece in the forthcoming volume of transactions. I would like to be authorized to insert as a frontispiece a good picture of Dr. Knox.

Motion seconded by several members, and unanimously adopted.

Dr. J. E. Stokes requests his paper, "Retroflexion of the Uterus, with report of five cases of Pregnancy following the Operation. Suspension of the Uterus for Retroflection," be read by title. Referred to Committee on Publication.

Dr. H. A. Royster: I move that before we adjourn we adopt the following resolution: First, that we return thanks to Mr. Howell Cobb, proprietor of Mountain Park Hotel—

Chairman: That is out of order just now.

Dr. Way: Mr. President, I hold in my hand the resignation of Dr. S. J. Montague, who states that his health is poor, and that he desires to resign.

It is moved that his request be acceded to. Seconded and accepted.

Chairman: Any further business? If

not, I will announce the chairmen of sections for 1904:

Anatomy and Surgery—Dr. J. E. Stokes, Salisbury.

Materia Medica and Therapeutics—Dr. G. C. Edwards, Hookerton.

Practice of Medicine—Dr. D. L. Aaron, Mt. Olive.

Physiology and Chemistry—Dr. F. L. Siler, Franklin.

Obstetrics—Dr Frank Roberts, Marshall.

Gynæcology—Dr. P. A. Nicholson, of Washington.

Medical Jurisprudence and State Medicine—Dr. Seavy Highsmith, Hope Mills.

Pathology and Microscopy—Dr. M. L. Stevens, Asheville.

Railway Surgery—Dr. H. A. Royster, Raleigh.

The Council reported to the Society that a meeting had been held at which the Council organized by electing Dr. D. T. Tayloe President, and Dr. H. A. Royster, Secretary. That a vigorous and earnest effort was to be made during the ensuing year to organize county medical societies, as far as practicable, throughout the State. That in conference with the rank and file of the members of the Society present they had been pleased at the hearty and earnest spirit already manifest in the highly important matter of organization, and they confidently expected the support of the local members of this body in each county to make an earnest effort to secure a local society. Each member was urged to enlist the sympathy and co-operation of his home confreres, this being secured the Council felt assured of the success of the new plan of organization.

The report of the Council was adopted, and the highly important matter of local County Medical Societies was commended to the consideration and thoughtful attention of every member of the State organization.

Society then adjourned sine die.

A. W. KNOX, Pres't.

J. HOWELL WAY, Sec'y.

Forty-First Annual Meeting of the Board of Medical Examiners of the State of North Carolina.

The Board met in Hot Springs, N. C., on Wednesday, May 27th, 1903. There were 107 applicants for license from all parts of the State, and representing 39 different Medical Colleges.

The new Board consisted of the following members:

Dr. M. H. Fletcher, Asheville, President.
Dr. J. M. Parrott, Kinston.
Dr. J. T. J. Battle, Greensboro.
Dr. A. A. Kent, Lenoir.
Dr. F. H. Russell, Wilmington.
Dr. Chas. O'H. Laughinghouse, Greenville.
Dr. Geo. W. Pressly, Charlotte, Sec'y.

The registration books were opened at 2 o'clock p. m. on Wednesday, and the examinations began at 9 a. m. on Thursday, on Physiology and Hygiene, by Dr. Fletcher. At 2:30 p. m. on Thursday, Dr Laughinghouse held the examinations on Obstetrics, Gynæcology and Pediatrics.

Friday morning at 9 o'clock Dr. Battle conducted the examinations on Materia Medica and Therapeutics, and at 2:30 p. m., Practice of Medicine was put up by Dr. Kent.

Dr. Parrott came on Saturday morning on Anatomy and Microscopy.

A recess was then taken until Monday at 9 o'clock a. m., when Dr. Russell on Surgery, and Dr. Pressly on Chemistry closed the examinations.

After a careful consideration of all the papers handed in, it was found that seventy-seven applicants had made 80 per cent. and above. Two of the applicants withdrew, and one was detected in fraud, and not graded. The Board was satisfied the second day that cheating was going on around a certain applicant, but the most diligent attention failed to catch it until near the end of the last examination, when the imposition was completely exposed. Of course the applicant was not considered in the grading.

On the whole, some very creditable papers were handed in, and the Board was very much gratified with the thoroughness of the answers. The highest general average was made by Dr. Thos. R. Little, of Greensboro, $96\frac{1}{7}$. The second place was won by Dr. James M. Lilly, of Mt. Gilead, on an average of 96. The third place was taken by Dr. Marvin L. Smoot, of Concord, whose grade was $95\frac{2}{7}$. Thirteen applicants were marked 90 and above on a general average.

The following is the list of those who were granted license:

John I. Fowlkes, Rockingham.
Thomas H. Strohecker, Davidson.
Thomas H. Valentine, Vultore.
Robert E. Mason, Charlotte.
William de B. MacNider, Raleigh.
Henry C. Cowles, Jr., Statesville.
Martin L. Matthews, East Bend.
William A. Robinson, Brink, Va.
Lewellyn J. Coppedge, Rockingham.
Oscar C. Daniels, Oriental.
Daniel A. Dees, Grantsbon.
Job W. Davis, Vienna.
Nielson P. Coppedge, Rockingham.
Thomas C. Johnson, Tomohawk.
Walter E. Walker, Richmond, Va.
Joseph L. DeCorniss, Shawboro.

Claude B. Williams, Elizabeth City.
Charles H. Hoover, Crimsic.
Robert W. Petrie, Reepsville.
J. Frank Jonas, Thermal City.
Joseph P. Aydlotte, Earl.
Charles P. Edwards, Bald Creek.
Marvin L. Smoot, Salisbury.
Francis J. Clemenger, Asheville.
Alfred F. Hammond, Trenton.
James M. Lilly, Mt. Gilead.
Soloman E. Greenwood, Mascot.
Dallas W. Chestnutt, Wilmington.
James M. Pethel, Charlotte.
Harry M. Montgomery, Burlington.
Archibald A. McFayden, Raeford.
Pompey L. Hawkins, Kittrell.
John William Carroll, West Raleigh.
Walter W. Sawyer, Elizabeth City.
J. Gerald Murphy, Atkinson.
Wesley C. Slate, Quaker.
Lytle C. Adams, Jonesville.
David L. George, Buck Shoals.
Clarence L. Wilson, Newton.
Asa C. Whitaker, Deran.
Thomas J. Proffitt, Sugar Grove.
Willis Alston, Jr., Littleton.
William M. Jones, Jr., Asheville.
James W. Flow, Glass.
Price B. Hall, Belmont.
Floyd Johnson, Benson.
Willard F. Robinson, Mars Hill.
Thomas A. Mann, Baltimore, Md.
Samuel R. Sayers, Jr., Hamlet.
Zebulon M. Caveness, Greensboro.
Willis D. Gilmore, Raleigh.
Alfred H. Caveness, Coleridge.
S. D. McPherson, Liberty.
W. Clinton Linville, Kernersville.
Ector G. Patterson, Liberty.
Thomas E. W. Brown, Asheville.
Charles P. Lang, Pinebluff.
John Reynolds, Asheville.
Charles St. V. Zimmerman, Asheville.
James H. Reynolds, Asheville.
Samuel A. Wilkins, Dallas.
Guy E. Dixon, Belwood.
Richard M. King, Philadelphia, Pa.
Edward J. Wood, Wilmington.
Joseph H. Boyles, Greensboro.
Guy F. Thigpen, Mildred.
Napoleon B. Mariner, Jamesville.
William B. Murphy, Jr., Tomahawk.
Julius A. Childs, Hickory.
James B. Outlaw, Goldsboro.
Thomas R. Little, Greensboro.
Julius A. Dosher, Southport.
John W. Was, Asheville.
James T. Nichols, Barnard.
R. A. Campbell, Pinebluff.
Walter B. Pollard, Hamilton.
Charles F. Norton, Asheville.

The following are the questions submitted by the members of the Board:

PRACTICE OF MEDICINE.

By Dr. A. A. Kent, Lenoir.

1. Give differential diagnosis between diphtheria and tonsilitis.

2. Give differential diagnosis between variola, varicella and impetigo contagiosa.

3. What is the essential cause of enteric fever?

4. How would you treat intestinal hemorrhage in enteric fever?

5. What is the essential cause of malarial fevers?

6. How would you treat a case of lobar pneumonia on the first day of the attack? —on the seventh day?

7. What is acute gastritis? Give symptoms, and write a prescription for it.

8 Define uræmia, giving symptoms and what percentage of urea is normal and what pathological in the blood. Write a prescription for it.

9. Define acute anterior poliomyelitis, giving location of the seat of the disease.

10. Give a reliable test for glycosuria, and state what percentage of sugar is normal in the blood and what pathological.

MATERIA MEDICA AND THERAPEUTICS.

By Dr. J. T. J. Battle, Greensboro.

1. Mention three of the most used preparations of opium and two Alkaloids, dose of each, its effect on the system, symptoms of toxic dose and antidotes.

2. Give three preparations of belladonna and its principal alkaloid, dose of each and its physiological action.

3. What precautions should be taken before administering the anaesthetics? (a) chloroform? (b) ether?

4. What is "normal saline solution," its strength, indication for its use, and mode of employment?

5. What three preparations of digitalis are more often used? its physiological effect? what condition of the heart contraindicates its use?

6. Dose of salol? how disposed of in the intestines? how eliminated? symptoms of overdose?

7. Dose of F. E. Ergot, its therapeutic uses? Explain its action.

8. Dose of carbolic acid, chemical and physiological antidotes?

9. Why should Tr. Ferri not be prescribed with vegetable tinctures? What dangers might arise from strychnia and bromides in combination? Give technical names for common salt, calomel and sugar of milk. Why not prescribe them in combination?

10. Give the two preparations of cimicifuga, doses, common name and its uses.

OBSTETRICS.

By Dr. C. O'H. Laughinghouse, Greenville.

1. Inevitable Abortion—treatment.

2. Puerperal Eclampsia — preventative treatment.

3. Postpartum Hemorrhage—treatment.

GYNECOLOGY.

1. Define Trachelorrhaphy.

2. Define Urethral Caruncle—give treatment.

3. Define Dysmenorrhea.

DISEASES OF CHILDREN.

1. Ophthalmia Neonatorum–treatment.

2. Diptheria—treatment.

3. Entero-Colitis—treatment.

ANATOMY.

By Dr. J. M. Parrott, Kinston.

1. Describe the body of the inferior maxillary bone.

2. Describe the shoulder joint.

3. Give the origin, insertion and nerve supply of the following muscles: (*a*) Pronator radii teres, (*b*) Supinator longus, (*c*) Psoas magnus, (*d*) Tibialis posticus, (*e*) Quadratus lumborum.

4. Describe the left ventricle of the heart, and give its relative position as to the chest wall.

5. Give the relations of the external carotid artery, and name its anterior branches.

6. Give the relations of the femoral artery and name its branches.

7. Describe the Fissure of Rolando.

8. Mention the superficial and deep origins of the 7th (facial) pair of cranial nerves, its foramen of exit, and give its distribution.

9. Give the boundaries of the popliteal space, and mention its contents.

10. Name the branches of the Sacral Plexus, and describe the great sciatic nerve, giving its minute relations.

PHYSIOLOGY.

By Dr. M. H. Fletcher, Asheville.

1. Give total quantity of blood in the body. (*a*) How is blood regenerated after hemorrhage? (*b*) What per cent of loss of blood can be borne without fatal results? (Approximate) (*c*) What constituents in the blood are more slowly regenerated after hemorrhage?

2. Give nerves controlling movements of the heart. (*a*) Give origin, course and distribution of the inhibitory nerves.

3. Give location and anatomical relations of the pancreas. (*a*) Its duct (*b*) Type of gland (*c*) Function in digestion (*d*) Name enzymes contained in the pracreatic secretion.

4. Name the ductless glands (*a*) What is meant by term "Internal Secretion?" (*b*) Give symptoms following removal of the adrenal bodies.

5. What are carbohydrates? (*a*) Their nutritive value? (*b*) What forms of energy do they supply to the body?

6. What muscles are concerned in respiration? (*a*) What changes take place in venous blood in its passage through the lungs? (*b*) After blood is arterialized, where does it go? (*c*) What is alveolar capacity?

7. Decribe a nerve cell (*a*) What structure in the cell body conveys nerve impulse? (*b*) What elements do sympathetic ganglia contain? (*c*) Give difference in function between anterior and posterior spinal nerve roots.

8. Give origin and function of third cranial nerve (*a*) When it is paralyzed or divided what effects ensue?

9. Describe eustachian tube. (*a*) Give its function. (*b*) Give principal seats of sense of taste. (*c*) What nerve supplies it?

10. How much air space should each person be allowed when confined in a room? (*a*) How often should the air be renewed?

CHEMISTRY.

By Dr. George W. Pressly, Charlotte.

1. Give three distinguishing characteristics of chemical force.

2. Distinguish between an atom and molecule.

3. Define an element and a compound.

4. Name three non-metallic elements, and give the symbol and atomic weight of each.

5. Convert 39 degrees Centigrade to Farenheit. Give rule.

6. What is meant by specific gravity?

7. What is distillation and sublimation?

8. What are alcohols, and what is the formula for absolute or real alcohol.

9. Give antidotes for arsenical acid poisoning.

10, Give composition of normal urine.

SURGERY.

By Dr. Frank H. Russell, Wilmington.

1. Name the varieties of ulcers.

2. Give cause, symptoms and treatment of acute wound infection.

3. Give in detail the method of giving an intravenous saline infusion. (*a*) In what surgical conditions indicated.

4. Give symptoms and treatment of dislocation of shoulder joint (ant.) complicated with fracture of surgical neck of humerus.

5. Describe Potts fracture.

6. Give symptoms of tubercular disease of hip joint.

7. How would you treat an appendicular abscess?

8. Give symptoms of strangulated hernia.

9. Give symptoms of vesical calculus.

10. Define hysterorrhaphy, nephrotomy, colostomy, cholecystotomy.

Constitution and By-Laws of the Medical Society of the State of North Carolina,

As Adopted at Hot Springs, N. C., June 3rd, 1903.

ARTICLE I—TITLE OF THE SOCIETY.

The name and title of this organization shall be "The Medical Society of the State of North Carolina."

ARTICLE II—PURPOSES OF THE SOCIETY.

The purpose of this Society shall be to federate and bring into one compact organization the entire medical profession of the State of North Carolina, and to unite with similar organizations in other States to form the American Medical Association; with a view to the extension of medical knowledge and to the advancement of medical science; to the elevation of the standard of medical education, and to the enactment and enforcement of just medical laws; to the promotion of friendly intercourse among physicians, and to the guarding and fostering of their material interests; and to the enlightenment and direction of public opinion in regard to the great problems of State medicine; so that the profession shall become more capable and honorable within itself, and more useful to the public in the prevention and cure of disease, and in prolonging and aiding comfort to life.

ARTICLE III—COMPONENT SOCIETIES.

Component societies shall consist of those district and county medical societies which hold charters from this State Society.

ART. IV—COMPOSITION OF THE SOCIETY.

Section 1. This Society shall consist of Members, Delegates, Guests, Honorary Members and Honorary Fellows.

Sec. 2. *Members*—The Members of this Society shall be the members of the component county medical societies.

Sec. 3. *Delegates* — Delegates shall be those members who are elected in accordance with this Constitution and By-laws to represent their respective component county societies in the House of Delegates of this Society.

Sec. 4. *Guests*—Any distinguished physician, not a resident of this State, may become a guest during any annual session upon invitation of the Society, or its Council, and shall be accorded the privilege of participating in all of the scientific work for that session.

Sec. 5. *The Honorary Members* shall consist of such regular physicians as have won distinction by their contributions to medical science; those elderly physicians who, prior to their retirement from practice, have displayed a proper interest in the welfare of this Society, or who, by their example have reflected credit and honor upon the profession. They must be nominated by the Council and receive a two-thirds vote of the members of the House of Delegates present at the meeting at which their names are presented for election. They shall be exempt from all dues and fines, and shall be entitled to all the privileges of the Society, except the right to vote and hold office.

Sec. 6. *The Honorary Fellows* shall consist of such physicians as have been members of this Society continuously for thirty years, and whose dues have been paid during that time. They shall receive a two-thirds vote of the members of the House of Delegates present at the meeting at which their names are proposed for promotion. They shall be exempt from all dues and fines, and shall be entitled to all the privileges enjoyed by active members in good standing.

ARTICLE V—HOUSE OF DELEGATES.

The House of Delegates shall be the legislative and business body of the Society, and shall consist of (1) delegates elected by the component county societies, and (2) *ex officio* the officers of the Society as defined in this Constitution.

ARTICLE VI—SECTIONS AND DISTRICT SOCIETIES.

The House of Delegates may provide for a division of the scientific work of the Society into appropriate sections, and for the organization of such councilor district societies as will promote the best interests of the profession, such societies to be composed exclusively of members of component county societies.

ARTICLE VII—SESSIONS AND MEETINGS.

Section 1. The Society shall hold an Annual Session, during which there shall be held daily not less than two General Meetings, which shall be open to all registered members, delegates and guests.

Sec. 2. The time and place for holding each Annual Session shall be fixed by the House of Delegates.

ARTICLE VIII—OFFICERS.

Section 1. The officers of this Society shall be a President, three Vice-Presidents, a Secretary, a Treasurer, and ten Councillors.

Sec. 2. The President and Vice-Presidents shall be elected for a term of one year. The Secretary, Treasurer and Councillors shall be elected for terms of three years each. All of these officers shall serve until their successors are elected and installed.

Sec. 3. The officers of this Society shall be elected by ballot, a majority of the votes cast being necessary to elect, by the House of Delegates on the morning of the second day of the Annual Session, but no Delegate shall be eligible to any office named in the preceding section, except that of Councillor, and no person shall be elected to any such office who is not in attendance upon the Annual Session and who has not been a member of the Society for the past three years. Any nominee for the office of President shall have been an active member of the Society for five years, including the year of his election; shall have attended two or three meetings immediately preceding his nomination, including the meeting at which he is nominated; and shall be a member in good standing at the time of his nomination.

ARTICTE IX—THE BOARD OF MEDICAL EXAMINERS, AND OTHER STATE MEDICAL OFFICERS.

Section 1. The seven members of the "Board of Medical Examiners of the State of North Carolina" shall be elected by ballot for a term of six years, a majority of the votes cast being necessary to a choice. The election shall be held on the second day of the annual meeting, and the balloting shall continue until the entire number is elected.

Sec. 2. A vacancy occurring from any cause other than expiration of term of office, shall he filled by the Board or a quorum thereof.

Sec. 3. The elective members of the State Board of Health, and of the State Board of Medical Examiners for Nurses, shall be elected by ballot on the second day of the session.

ARTICLE X—FUNDS AND EXPENSCS.

Funds for meeting the expenses of the Society shall be arranged for by the House of Delegates by an equal per capita assessment upon each county society, to be fixed by the House of Delegates, by voluntary contribution, and from the profits of its publications. Funds may be appropriated by the House of Delegates to defray the expenses of the annual sessions, for publication, and for such other purposes as will promote the welfare of the Society and the profession.

ARTICLE XI—REFERENDUM.

The general meeting of the Society may, by a two-thirds vote, order a general referendum upon any question pending before the House of Delegates, and the House of Delegates may, by a similar vote of its own members, or after a like vote of the general meeting, submit any such question to the membership of the Society for a final vote; and if the persons voting shall comprise a majority of all the members of the Society, a majority of such vote shall determine the question, and be binding upon the House of Delegates.

ARTICLE XII—THE SEAL.

The Society shall have a common seal, with power to break, change or renew the same at pleasure.

ARTICLE XIII—AMENDMENTS.

The House of Delegates may amend any article of this Constitution by a two-thirds vote of the delegates registered at that annual session, provided that such amendment shall have been presented in open meeting at the previous annual session, and that it shall have been sent officially to each component county society at least two months before the session at which final action is to be taken.

BY-LAWS.

CHAPTER I—MEMBERSHIP.

Section 1. All members of the component county societies shall be privileged to attend all meetings and take part in all of the proceedings of the annual sessions, and shall be eligible to any office within the gift of the Society.

Sec. 2. The name of a physician upon the properly certified roster of members or list of delegates, of a chartered county society which has paid its annual assessment, shall be *prima facie* evidence of his right to register at the annual session in the respective bodies of this Society. Provided that licentiates of the State Board of Medical Examiners may, if the House of Delegates so elects, at the meeting of the Society at which they receive license, be entitled to register upon payment of the annual dues for that year, and be accorded all the privileges of other members for that year, the Secretary of the Society entering their names and so certifying to the secretary of the county society where the said licentiates reside, but said licentiates desiring to continue membership in this Society must affiliate with their local county society.

Sec. 3. No person who is under sentence of suspension or expulsion from any component society of this Society, or whose name has been dropped from its roll of members, shall be entitled to any of the rights or benefits of this Society, nor shall he be permitted to take any part in any of its proceedings until such time as he has been relieved of such disability.

Sec. 4. Each member in attendance at the annual session shall enter his name on the registration book, indicating the component society of which he is a member. When his right to membership has been verified by reference to the roster of his society, he shall receive a badge, which shall be evidence of his right to all the privileges of membership at that session. No member or delegate shall take part in any of the proceedings of an annual session until he has complied with the provisions of this section.

Chapter II—Annual and Special Sessions of the Society.

Section 1. The Society shall hold an annual session at such time and place as has been fixed at the preceding annual session.

Sec. 2. Special sessions of either the Society or House of Delegates shall be called by the President at his discretion, or upon petition of twenty delegates.

Chapter III—General Meetings.

Section 1. The general meetings shall include all registered members, delegates and guests, who shall have equal rights to participate in the proceedings and discussions; and, except guests and honorary members, to vote on pending questions. Each general meeting shall be presided over by the President, or in his absence or disability, or by his request, by one of the Vice-Presidents. Before it, at such time and place as may have been arranged, shall be delivered the annual address of the President, and the annual orations, and the entire time of the session, so far as may be, shall be devoted to papers and discussions relating to scientific medicine.

Sec. 2. The general meeting shall have authority to create committees or commissions for scientific investigations of special interest and importance to the profession and public, and to receive and dispose of reports of the same; but any expense in connection therewith must first be approved of by the House of Delegates.

Sec. 3. Except by special vote, the order of exercises, papers and discussions, as set forth in the official program shall be followed from day to day until it has been completed.

Sec. 4. No address or paper before the Society, except those of the President and orators, shall occupy more than twenty minutes in its delivery; and no member shall speak longer than five minutes, nor more than once, on any subject.

Sec. 5. All papers read before the Society shall be its property. Each paper shall be deposited with the Secretary when read, and if this is not done it shall not be published.

Chapter IV—House of Delegates.

Section 1. The House of Delegares shall meet annually at the time and place of the annual session of the Society, and shall so fix hours of meeting as not to conflict with the first general meeting of the Association, or with the meeting held for the address of the President and the annual orations, and so as to give delegates an opportunity to attend the other scientific proceedings and discussions so far as is consistent with their duties. But if the business interests of the Society and profession require, it may meet in advance, or remain in session after the final adjournment of the general meeting.

Sec. 2. Each component county society shall be entitled to send to the House of Delegates each year one delegate for every twenty-five members, and one for each major fraction thereof, but each county society holding a charter from this Society which has made its annual report and paid its assessment as provided in this Constitution and By-laws, shall be entitled to one delegate.

Sec. 3. A majority of the registered delegates shall constitute a quorum, and all of the meetings of the House of Delegates shall be open to members of the Society.

Sec. 4. It shall, through its officers, Advisory Council, and otherwise, give diligent attention to and foster the scientific work and spirit of the Society, and shall constantly study and strive to make each annual session a stepping-stone to future ones of higher interest.

Sec. 5. It shall consider and advise as to the material interests of the profession, and of the public in those important matters wherein it is dependent upon the profession, and shall use its influence to secure and enforce all proper medical and public health legislation, and to diffuse popular information in relation thereto.

Sec. 6. It shall make careful inquiry into the condition of the profession of each county in the State, and shall have authority to adopt such methods as may be deemed most efficient for building up and increasing the interest of such county societies as already exist, and for organizing the profession in counties where societies do not exist. It shall specially and systematically endeavor to promote friendly intercourse between physicians of the same locality, and shall continue these efforts until every physician in every county of the State, who can be made reputable, has been brought under medical society influence.

Sec. 7. It shall encourage post-graduate work in medical centers, as well as home study and research, and shall endeavor to have the results of the same utilized and intelligently discussed in the county societies. (With these ends in view, five years after the adoption of these By-laws, or after 1908, no voluntary paper shall be placed upon the annual program, or be heard in the Association, which has not first been read in the county society of which the author is a member.)

Sec. 8. It shall elect representatives to the House of Delegates of the American Medical Association in accordance with the Constitution and By-laws of that body, in such a manner that not more than one-half of the delegates shall be elected in any one year.

Sec. 9. It shall, upon application, provide and issue charters to county societies organized to conform to the spirit of this Constitution and By-laws.

Sec. 10. In sparsely settled sections, it shall have authority to organize the physicians of two or more counties into societies, to be designated by hyphenating the names of two or more counties, so as to distinguish them from district and other classes of societies, and these societies, when organized and chartered, shall be entitled to all the privileges and representation provided herein for county societies, until such counties may be organized separately.

Sec. 11. It may divide the counties of the State into ten councillor districts, and, when the best interest of the society and profession will be promoted thereby, organize in each a district medical society, to meet midway between the annual sessions of this Society, and members of the chartered county societies, and none others, shall be members in such district societies. (When so organized, from the presidents of such district societies shall be chosen the Vice-Presidents of this Society, and the presidents of the county societies of the district shall be the vice-presidents of such district societies.)

Sec. 12. It shall have authority to appoint committees for special purposes from among members of the Society who are not members of the House of Delegates, and such committees may report to the House of Delegates in person, and may participate in the debate thereon.

Sec. 13. It shall approve all memorials and resolutions issued in the name of the Society before the same shall become effective.

Sec. 14. It shall present a summary of its proceedings to the last general meeting of each annual session, and shall publish the same in the transactions.

CHAPTER V—ELECTION OF OFFICERS.

Section 1. All elections shall be by secret ballot, and a majority of the votes cast shall be necessary to elect; *Provided*, that when only one name is to be ballotted for, the Society may suspend the rules and declare the same elected by consent.

Sec. 2. The House of Delegates, on the first day of the annual sessions, shall select a Committee on Nominations, consisting of ten delegates, no two of whom shall be from the same councillor district. It shall be the duty of this committee to consult with the members of the Society, and to hold one or more meetings, at which the best interests of the Society and of the profession of the State for the ensuing year shall be carefully considered. The committee shall report the result of its deliberations to the House of Delegates in the shape of a ticket containing the names of one member for the office of President, and one member for each of the other offices to be filled at that annual session.

Sec. 3. The report of the Nominating Committee and the election of officers shall be the first order of business of the House of Delegates after the reading of the minutes on the morning of the second day of the general session.

Sec. 4. Nothing in this article shall be construed to prevent additional nominations being made by members of the House of Delegates.

Sec. 5. Any person known to have solicited votes for or sought any office within the gift of this Society, shall be ineligible for any office for two years.

CHAPTER VI—DUTIES OF OFFICERS.

Section 1. The President shall preside at all meetings of the Society and of the House of Delegates; shall appoint all committees not otherwise provided for; shall deliver an annual address at such time as may be arranged; shall give a deciding vote in case of a tie, and shall perform such other duties as custom and parliamentary usage may require. He shall be the real head of the profession of the State during his term of office, and, as far as practicable, shall visit by appointment the various sections of the State and assist the councillors in building up the county societies, and in making their work more practical and useful.

Sec. 2. The Vice-Presidents shall assist the President in the discharge of his duties. In the event of his death, resignation or removal, the Council shall select one of the Vice-Presidents to succeed him.

Sec. 3. The Treasurer shall give bond for the trust reposed in him whenever the House of Delegates shall deem it requisite. He shall demand and receive all funds due the Society, together with the bequests and donations. (He shall, under the direction of the House of Delegates, sell or lease any estate belonging to the Society, and execute the necessary papers; and shall, in general, subject to such direction, have the care and management of the fiscal affairs of the Society. He shall pay money out of the treasury only on a written order of the President, countersigned by the Secretary; he shall subject his accounts to such examination as the House of Delegates may order, and he shall annually render an account of his doings and of the state of the funds in his hands. He shall charge upon his books the assessments against each component county society at the end of the fiscal year; he shall collect and make proper credits for the same, and perform such other duties as may be assigned to him.

Sec. 4. The Secretary, acting with the Committee on Scientific Work, shall prepare and issue the programs for and attend all meetings of the Society, and of the House of Delegates, and he shall keep minutes of their respective proceedings in separate record books. He shall be the custodian of all record books and papers belonging to the Society, except such as properly belong to the Treasurer, and shall keep an account of and promptly turn over to the Treasurer all funds of the Society which come into his hands. He shall provide for the registration of the members and delegates at the annual sessions. He shall keep a card-index register of all the legal practitioners of the State by counties, noting on each his status in relation to his county society, and upon request shall transmit a copy of this list to the American Medical Association for publication. In so far as it is in his power, he shall use the printed matter, correspondence and influence of his office to aid the councillors in the organization and improvement of the county societies, and in the extension of the power and usefulness of this Society. He shall conduct the official correspondence, notifying members of meetings, officers of their election, and committees of their appointment and duties. He shall act as chairman of the Committees on Scientific Work and on Publication. He shall employ such assistants as may be ordered by the Council or the House of Delegates. He shall annually make a report of his doings to the House of Delegates.

Sec. 5. In order that the Secretary may be enabled to give that amount of time to his duties which will permit of his becoming proficient, it is desirable that he should receive some compensation. The amount of his salary shall be fixed by the House of Delegates,

CHAPTER VII—COUNCILLOR DISTRICTS.

Section 1. To facilitate the more perfect organization of the medical profession, the State of North Carolina is hereby divided by counties into ten councillor districts, as follows:

First District—Currituck, Camden, Pasquotank, Perquimans, Gates, Chowan, Washington, Tyrrell, Dare and Hyde.

Second District—Hertford, Martin, Pitt, Bertie, Beaufort, Lenoir, Jones, Craven, Pamlico and Carteret.

Third District—New Hanover, Pender, Onslow, Duplin, Bladen, Sampson, Columbus and Brunswick.

Fourth District— Northampton, Halifax, Nash, Edgecombe, Johnson, Wilson, Wayne and Greene.

Fifth District—Cumberland, Robeson, Scotland, Richmond, Montgomery, Moore, Harnett and Chatham.

Sixth District—Wake, Franklin, Warren, Vance, Granville, Person, Caswell, Alamance, Orange and Durham.

Seventh District—Anson, Union, Stanly, Mecklenburg, Cabarrus, Lincoln, Gaston, Cleveland and Rutherford.

Eighth District—Rockingham, Guilford Randolph, Forsyth, Stokes, Surry, Yadkin, Alleghany, Wilkes and Ashe.

Ninth District—Davidson, Davie, Rowan, Iredell, Alexander, Catawba, Caldwell, Watauga, Mitchell and Burke.

Tenth District—Buncombe, Yancey, McDowell, Madison, Polk, Henderson, Haywood, Transylvania, Jackson, Swain, Macon, Graham, Clay and Cherokee.

CHAPTER VIII—COUNCIL.

Section 1. The Council shall hold daily meetings during the annual session of the Association, and at such other times as necessity may require, subject to the call of the Chairman, or on petition of three Councillors. It shall meet on the last day of the annual session of the Association for reorganization and for the outlining of work for the ensuing year. At this meeting it shall elect a Chairman and Secretary, and it shall keep a permanent record of its proceedings. It shall, through its Chairman, make an annual report to the House of Delegates at such time as may be provided.

Sec. 2. Each Councillor shall be organizer, peace-maker and censor for his district. He shall visit each county in his district at least once a year for the purpose of organizing component societies where none exist, for inquiring into the condition of the profession, and for improving and increasing the zeal of the county societies and their members. He shall make an annual report of his doings, and of the condition of the profession of each county in his district to each annual session of the House of Delegates. The necessary traveling expenses incurred by such Councillor in the line of the duties herein imposed may be allowed by the House of Delegates upon a proper itemized statement, but this shall not be construed to include his expense in attending the annual session of the Socisty.

Sec. 3. Collectively the Council shall be the Board of Censors of the Society. It shall consider all questions involving the rights and standing of members, whether in relation to other members, to the component societies, or to this Society. All questions of an ethical nature brought before the House of Delegates or the general meeting shall be referred to the Council without discussion. It shall hear and decide all questions of discipline affecting the conduct of members or of a county society, upon which an appeal is taken from the decision of an individual councillor. Its decision in all such cases shall be final.

Sec. 4. The Council shall have the right to communicate the views of the profession and of the Society in regard to health, sanitation and other important matters to the public and the lay press. Such communications shall be officially signed by the Chairman and Secretary of the Council, as such.

Chapter IV—Committees.

Section 1. The standing committees shall be as follows:

A Committee on Scientific Work.

A Committee on Public Policy and Legislation.

A Committee on Publication.

A Committee on Nominations.

A Committee on Finance.

A Committee on Obituaries.

A Committee on Arrangement, and such other committees as may be necessary. Such committees shall be elected by the House of Delegates, unless otherwise provided.

Sec. 2. The Committee on Scientific Work shall consist of three members, of which the Secretary shall be a member and chairman, and shall determine the character and scope of the scientific proceedings of the Society for each session, subject to the instructions of the House of Delegates or of the Society, or to the provisions of the Constitution and By-laws. Thirty days previous to each annual session it shall prepare and issue a program announcing the order in which papers, discussions and other business shall be presented, which shall be adhered to by the Society as nearly as practicable.

Sec. 3. The Committee on Public Policy and Legislation shall consist of three members and the President and Secretary. Under the direction of the House of Delegates it shall represent the Society in securing and enforcing legislation in the interest of the public health and of the scientific medicine. It shall keep in touch with professional and public opinion, shall endeavor to shape legislation so as to secure the best results for the whole people, and shall utilize every organized influence of the profession to promote the general influence in local, State and national affairs and elections. Its work shall be done with the dignity becoming a great profession, and with that wisdom which will make effective its power and influence. It shall have authority to be heard before the entire Society upon questions of great concern at such time as may be arranged during the annual sessions.

Sec. 4. The Committee on Publication shall consist of three members, of which the Secretary shall be one and chairman, and shall have referred to it all reports on scientific subjects, and all scientific papers and discussions heard before the Society. It shall be empowered to curtail or abstract papers and discussions, and any paper referred to it which may not be suitable for publication in the transactions may be returned to the author. The committee shall have authority to arrange for the publication and distribution of the transactions after receiving competitive bids, and shall use diligence in getting them into the hands of the members. All papers read before the Society shall be the property of the Society.

Sec. 5. The Committee on Nominations shall be appointed, and perform its duties in accordance with the provisions of chapter 5, section 2, of these By-laws. They shall also nominate an Orator, an Essayist, a Leader of Debate, a Committee on Scientific Work, a Committee on Public Policy and Legislation, a Committee on Publication, a Committee on Obituaries, a Committee on Finance, one member of the Committee of Arrangements, Delegates to the American Medical Association, the Virginia Medical Association, the South Carolina Medical Association, and to such other bodies as the Society may determine. They shall also each third year nominate a Board of ten Councillors.

Sec. 6. The Committee on Finance, to consist of three members, shall examine the accounts of the Treasurer and report to the Society, making suggestions as to the amount of assessments for the coming year, the remuneration of the Secretary and the Treasurer, and such other suggestions concerning the finances of the Society as they may think proper. The Committee on Obituaries to consist of three members, shall report to the general meeting of the Society the names of all members dying during the past year, with other data appropriate for memorial publication.

Sec. 7. The Committee of Arrangements shall consist of one member elected by the House of Delegates each year, and two members elected by the county society in the territory in which the annual session is to be held. It shall, by committees of its own selection, provide suitable accommodations for the meeting places of the society and of the House of Delegates, the Board of Medical Examiners, and of their respective committees, and shall have general charge of all the arrangements. Its chairman shall report an outline of the arrangements to the Secretary for publication in the program, and shall make additional announcements during the session as occasion may require.

CHAPTER X—OF THE SECTIONS AND VOLUNTARY COMMUNICATIONS.

Section 1. The newly installed President shall, at the last session of each meeting, appoint a member to serve as chairman of each of the following sections, to-wit: Anatomy and Surgery, Materia Medica and Therapeutics and Practice of Medicine, Physiology and Chemistry, Obstetrics, Gynecology, Medical Jurisprudence and State Medicine, Pathology and Microscopy, and Railway Surgery.

Sec. 2. At any time after the meeting the chairman of each section may appoint three such members as he may select as his assistants to work up such items as he may designate, confining himself to the general advancement in his section.

Sec. 3. The chairmen of sections shall send in to the Secretary, not later than thirty days previous to each meeting of the Society, the titles of papers to be presented by themselves and their assistants, to be used by the Committee on Scientific Work in making a program for the meeting.

Sec. 4. No paper shall be read before the Society unless the author be present, unless his absence be due to some unavoidable circumstance. A paper presented by proxy may be referred to the Committee on Publication.

Sec. 5. No paper shall be referred to the Committee on Publication until it has been placed in the hands of the Secretary; and the Secretary shall not return any paper accepted by the Society without the consent of the Society, and then he shall take a receipt for the same.

Sec. 6. No paper shall be received by or read before this Society that has been presented to any other society, excepting only a component society of this society, or that has been offered for publication in any journal; and in the case of any paper accepted, the author is supposed to have invested with the society all rights to its ownership.

Sec. 7. No paper shall be published in the transactions of this Society unless approved by the Committee on Publication; and a y paper rejected by said committee shall be returned to the author through the secretary of the society.

Sec. 8. It is to be understood that the society is not to be considered as endorsing all the views and opinions advanced by the authors of papers published in the transactions of the society.

CHAPTER XI—ASSESSMENTS AND EXPENDITURES.

Section 1. An assessment of two dollars per capita on the membership of the component societies is hereby made the annual dues of this society. The Secretary of each county society shall forward its assessment together with its roster of all officers and members, list of delegates, and list of non-affiliated physicians of the county to the Secretary of this Society on or before the first day of April in each year.

Sec. 2. Any county society which fails to pay its assessment, or make the reports required, on or before the date above stated, shall be held as suspended, and none of its members or delegates shall be permitted to participate in any of the business or proceedings of the State Society or of the House of Delegates, or receive the volume of transactions, until such requirements have been met.

Sec. 3. All motions or resolutions appropriating money shall specify a definite amount, or so much thereof as may be necessary for the purpose indicated, and must be approved by the Council and House of Delegates on a call of the ayes and noes.

CHAPTER XII—RULES OF CONDUCT.

The principles set forth in the Declaration of Principles of Medical Ethics of the American Medical Association shall govern the conduct of members in their relations to each other and to the public.

CHAPTER XIII—RULES OF ORDER.

The deliberations of this society shall be governed by parliamentary usage as contained in Roberts' Rules of Order, unless otherwise determined by a vote of its respective bodies.

CHAPTER XIV—COUNTY SOCIETIES.

Section 1. All county societies now in affiliation with the State Society, or those that may be hereafter organized in this State, which have adopted principles of organization not in conflict with this Constitution and By-laws, shall, upon application to the House of Delegates, receive a charter from and become a component part of this society.

Sec. 2. As rapidly as can be done after the adoption of this Constitution and By-laws, a medical society shall be organized in every county in the State in which no component society exists, and charters shall be issued thereto.

Sec. 3. Charters shall be issued only upon approval of the House of Delegates, and shall be signed by the President and Secretary of this Society. The House of Delegates shall have authority to revoke the charter of any component county society whose actions are in conflict with the letter or spirit of this Constitution and By-laws.

Sec. 4. Only one component medical society shall be chartered in any county. Where more than one county society exists, friendly overtures and concessions shall be made, with the aid of the councillor for the district, if necessary, and all the members brought into one organization. In case of a failure to unite, an appeal may be made to the council, which shall decide what action shall be taken.

Sec. 5. Each county society shall judge of the qualification of its own members, but, as such societies are the only portals to this Society and to the American Medical Association, every reputable and legally registered physician who is practicing, or who will agree to practice, non-sectarian medicine, shall be entitled to membership. Before a charter is issued to any county society, full and ample notice and opportunity shall be given to every such physician in the county to become a member.

Sec. 6. Any physician who may feel aggrieved by the action of the society of his county in refusing him membership, or in suspending or expelling him, shall have the right of appeal to the Council and to the House of Delegates.

Sec. 7. In hearing appeals, the Council may admit oral or written evidence, as in its judgment will best and most fairly present the facts, but in case of every appeal, both as a board and as individual councillors in district and county work, efforts at conciliation and compromise shall precede all such hearings.

Sec. 8. When a member in good standing in a component society moves to another county in this State, his name, upon request, shall be transferred without cost to the roster of the county society into whose jurisdiction he moves.

Sec. 9. A physician living on or near a county line may hold his membership in that county most convenient for him to attend, on permission of the society in whose jurisdiction he resides.

Sec. 10. Each county society shall have general direction of the affairs of the profession in the county, and its influence shall be constantly exerted for bettering the scientific, moral and material condition of every physician in the county; and systematic efforts shall be made by each member, and by the society as a whole, to increase the membership until it embraces every qualified physician in the county.

Sec. 11. Frequent meetings shall be encouraged, and the most attractive programs arranged that are possible. The younger members shall be especially encouraged to do post-graduate and original research work, and to give the society the first benefit of such labors. Official position and other preferments shall be unstintingly given to such members.

Sec. 12. At (some meeting in advance of the annual session of this society) each county society shall elect a delegate or delegates to represent it in the House of Delegates of this Society in the proportion of one delegate to each twenty-five members or major fraction thereof, and the secretary of the society shall send a list of such delegates to the Secretary of this society at least ten days before the annual sessions.

Sec. 13. The secretary of each county society shall keep a roster of its members, and a list of the non-affiliated registered physicians of the county, in which shall be shown the full name, address, college and date of graduation, date of license to practice in this State, and such other information as may be deemed necessary. He shall furnish an official report containing such information upon blanks supplied him for the purpose, to the Secretary of this society on or before the first day of April in each year, and at the same time that the dues accruing from the annual asssessment are sent in. In keeping such roster, the secretary shall note any changes in the personnel of the profession by death, or by removal to or from the county, and in making his annual report he shall be certain to account for every physician who has lived in the county during the year.

Chapter XV—Order of Business.

Section 1. General meetings.

The President, or, in his absence, one of the Vice-Presidents, in the order of their rank, shall call the society to order, or in the absence of all these officers, a presiding officer shall be chosen by a majority of the members present.

Address of Welcome. Response.

Any business requiring early attention may be introduced by permission and without discussion referred to the Council, the House of Delegates, or the appropriate committee.

The President's Address.

Reports of Committees.

Reports from the House of Delegates.

Reports from the Council.

Written communications upon medical subjects may be read and discussed. This shall include reports from sections as arranged each year by the programme.

The Annual Oration.

The Annual Essay.

The Annual Debate.

Oral Communications and Clinical Reports read and discussed.

Final Reports from the Council.

Final Reports from the House of Delegates.

Final Reports from Committees.

Report to the General meeting from the House of Delegates appointing the time and place of next session.

Report from the House of Delegates of the Election of Officers and Committees.

Appointment of Chairmen of Sections by President.

Adjournment.

Sec. 2. The House of Delegates.

The President, or, in his absence, one of the Vice-Presidents, in the order of their rank, shall call the House to order, or in the absence of all these officers, a presiding officer shall be chosen by a majority of the members present.

Roll call.

The President's Message.

Report of Committee on Credentials.

Reports of Committees.

Reports of Officers.

Reports of the Council.

Communications from the General Meeting of the Society.

Reports from the County Societies.

Appointment of Nominating Committee.

New Business.

General Discussion of measures for the advancement of the Profession.

Reports of Committees.

Election of Officers and Committees.

Selection of Place and Time of next Meeting.

Unfinished Business.

Adjournment.

(Where there may at times appropriately be a variation from the details of the above outline of business procedure, it is the intention of these By-laws to so arrange that the work other than the purely scientific part of the Society's proceedings be done in the Council and House of Delegates, and the general meetings of the Society be devoted exclusively to scientific work.)

Chapter XVI—Amendments.

These By-laws may be amended at any annual session by a majority vote of all the delegates present at that session, after the amendment has laid upon the table for one day.

Councillors appointed as provided for under the Seventh Chapter are as follows:

First District—Currituck, Camden, Pasquotank, Perquimans, Gates, Chowan, Washington, Tyrrell, Dare and Hyde—Dr. Oscar McMullan, Elizabeth City.

Second District—Hertford, Martin, Pitt, Bertie, Beauford, Lenoir, Jones, Craven, Pamlico and Carteret—Dr. D. T. Tayloe, Washington.

Third District—New Hanover, Pender, Onslow, Duplin, Bladen, Sampson, Columbus and Brunswick—Dr. F. H. Russell, Wilmington.

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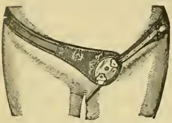

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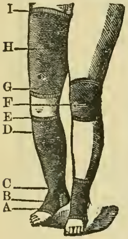

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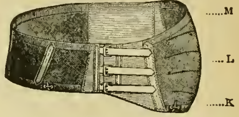

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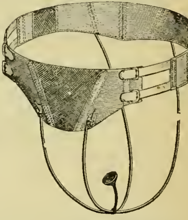

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Purity of Re-Agents in Testing for Arsenic.

Since the arsenic in beer scare of 1900, various methods, chiefly modifications of known processes, have been devised for the detection and estimation of minute quantities of arsenic in beer, malt, and other articles of food.

A joint committee of the Society of Chemical Industry and the Society of Public Analysis was formed in order to devise a standard or official method of testing for and estimating arsenic, and this Committee subsequently published a valuable report upon the subject.

A paper by Mr. William Thompson, F. I. C., contained in the Medical Chronicle criticises this report, and is well worth perusal by those interested in the chemical processes for the detection and estimation of arsenic.

Of special interest are the author's remarks in regard to the purity of hydrochloric and sulphuric acids, and the zinc used in connection with such processes.

In regard to hydrochloric acid, he states: "I agree that the acid sold as pure, nearly always, if not always, contains arsenic. * * * My method of purifying hydrochloric acid is a very simple one. I do not require to use the purest acid which can be bought to start with. I simply dilute strong acid of any kind with about one-third its volume of water, although the dilution is not necessary. I put it in a retort, add to it about 1 grm. per liter of chromic acid, and distil. By preference I use a large stoppered glass flask placed on a sand bath, a tube from the neck of which enters a Liebig's condenser glass touching glass, and the distillate is collected. It is, however, saturated with chlorine. I then pass a current of filtered air through the distillate, say half a gallon, for about two hours, by means of a water vacuum pump, when every trace of chlorine is removed, and no trace of arsenic will be found in the distillate."

In regard to sulphuric acid, Thompson disagrees with the Joint Committee when they say that sulphuric acid is more frequently obtained arsenic-free than hydrochloric acid. He could not obtain a single sample which was entirely free from arsenic. His method of purifying it is stated to be simpler than that recommended by the Committee, and is as follows:

Into a non-tubulated retort he puts the sulphuric acid, previously mixed with about a gramme to the liter of chromic acid or potassium permanganate. He then distils and collects the distillate, which is free from any trace of arsenic or from sulphurous acid.

Zinc also, in contradistinction to the Joint Committee, he found great difficulty in obtaining arsenic-free. Samples of electrolytic zinc were found free from arsenic, but were contaminated with iron to such an extent as to be useless. "If, however, this zinc be treated with acid, some pieces, especially those which have granulated in button form, produce rapid effervescence, and become black on the surface from the formation of a deposit of metallic iron, whilst other parts, especially those which are most feathery, yield very little effervescence, and it is easy thus to pick out the good from the bad. The feathery pieces, being usually free from both arsenic and iron, are suitable for the Marsh test.—Indian Medical Record.

Miscellaneous.

Mechanism of Pancreatic Secretion.

The important work of Pawlow on the work of the digestive glands, emphasized the importance of a reflex nervous mechanism in secretion, and the Russian observer held that that stimulus which he found most active for the secretion of pancreatic juice, namely, hydrochloric acid, acted reflexly through the duodenal mucosa. Bayliss and Starling (*Journ. Physiol.*) in their recent work on this subject, find that pancreatic secretion is still called forth on the introduction of weak hydrochloric acid into the duodenum, after all nerve connections of duodenum and jejunum with the central nervous system have been cut. They hold that the mechanism of pancreatic secretion is somewhat of this kind. When the acid comes into contact with the cells of the duodenal mucosa (or that of jejunum) a certain substance, named by them secretin, is produced, which is carried from the seat of formation by the blood to the pancreas, where it acts as a specific stimulus of the pancreas cells, and calls forth a secretion of pancreatic juice. The amount of the juice so secreted appears to be more or less proportional to the amount of secretin. As a proof of this, they adduce evidence of the activity of acid extracts of the duodenal mucosa, which have a specific action in pancreatic secretion. Secretin is not destroyed by boiling in acid, neutral or alkaline aqueous solution, or in boiling alcohol, and hence is not a ferment. It is insoluble in water and alkalies, is not precipitated out of aqueous solution by tannic acid or alcohol or ether, but is easily destroyed by the majority of metallic salts, oxidising substances, and pancreatic juice. It is only slightly diffusible. The juice secreted after injection of secretin only possesses proteid digesting powers after enterokinase has been added, while it splits up fats (action increase by addition of intestinal juice), and transforms starch into maltose in the usual way. Apart from a slight action upon bile secretion, it has no effect upon the activity of any other gland. So far as can be made out, it is not absorbed from the lumen of the gut. It disappears rapidly from the tissues, and cannot be obtained in any secretion or from any other part than the intestinal mucosa.—*Edin. Med. Jour.*

Dr. J. O. Summers, former Professor of Anatomy and Histology, College of Physicians and Surgeons, St. Louis,

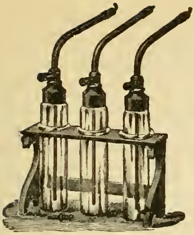
In an article in the New York Medical Journal, speaking of the advantages of Protonuclein over other organic nuclein compounds, says:

"It is almost impossible to obtain an exact formula for nuclein, which was first discovered by Miescher in the pus corpuscles and the yolk of the egg. Physiological chemists, however, have generally agreed upon the following: $C_{29}H_{49}N_9P_3O_{22}$. A fresh preparation is a colorless, amorphous body, soluble to a slight extent in water, no attempt being made to separate it from its immediate physiological surroundings. It has also been discovered by Professor Chittenden, Dr. Vissman, and others of the Polyclinic School in New York and the laboratories of St. Louis, that protonuclein contains a very appreciable portion of iodine in its environment as extracted. This, of course, would tend greatly to the increase of the absorbent and assimilative functions of protonuclein, bringing it very close to all of the ultimate constructive cells of the body, which is the normal therapeutic action of iodine.

This product, therefore, not only contains the nuclein, but also the nuclein-charged multinuclear leucocytes, which are the active agents of nutrition and assimilation, the vital units of the organism, and the normal resistants to toxic agents introduces into the body. In this way the activity of the principle is preserved and made applicable to every condition of structure. The large proportion of phosphorus would of itself suggest its general restorative powers, which have been so signally demonstrated in its practical therapeutic application. It is, however, to the cellular activity of protonuclein that its therapeutic power is mainly due, and this contradistinguishes it from all nuclein preparations so-called, which have been separated from their normal physiological environment, and can only be useful to the extent of furnishing nutrition to wasting parts provided their activity is preserved, which is scarcely possible without the normal environment, having no effect upon neoplasms or cachexias, which protonuclein attacks with vigor and success."

Internal Medication in Gonorrhea.

The administration of cystogen gr. 5, four or five times daily during the period of treatment of gonorrhea will greatly limit the area of infection, prevent re-infection and reduce inflamation. By the liberation of formaldehyde it causes the urine to become an antiseptic solution, thus insuring a thorough flushing of the urinary tract from the kidneys to the meatus with an agent that is actively opposed to germ life. This will be found to be an important adjunct to local treatment. For the convenience of the patient it is often desirable to order cystogen in tablet form, it being manufactured in five grain tablets.



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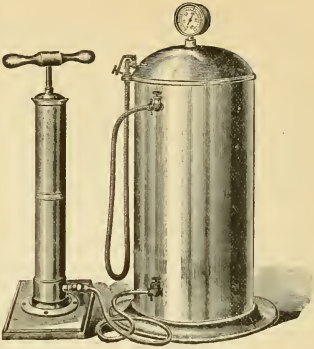

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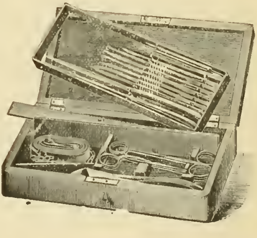

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A well-known physician, after twenty-five years' practice, once said to us, "if I were limited to half a dozen remedies and could make my own choice, *Alkaline Elixir* (or as it is now called *Alkarhein*) would be one of the first that I would name. It is not only the best of all remedies for summer complaint, but is of value in practically every form of intestinal disturbance—certainly in all those in which there is fermentation of the contents of the alimentary canal." Alkarhein is composed of rhubarb, golden seal, potassium bicarbonate, sodium bicarbonate, cinnamon, peppermint, pancreatin and brandy, and the indications for its use are above outlined.

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Practical Experiments in the Treatment of Anemic Conditions.

Translated from Wiener klinische (Vienna, Austria,) March 29, 1903.

By Fritz Euler-Rolle, M. D., of Vienna.

In the following I desire to describe in some detail the action of an iron preparation which, owing to its great advantages, deserves a permanent place in our materia medica. The preparation referred to is Pepto-Mangan (Gude), which unites in a fortunate manner those qualities which we have a right to demand of a ferruginous remedy. In the first place it contains besides iron a second constituent of importance in the formation of blood, namely, manganese; and, secondly, both of these are present in a neutral solution, which is the more to be valued since because of this fact it disturbs neither the gastric nor the intestinal functions. For this reason we are enabled to submit every case of chlorosis at once to ferruginous treatment, irrespective of the condition of the gastro-intestinal tract. Other authors have called attention to this advantage. Heitzmann[1] emphasizes particularly how well the preparation is tolerated, and that, unlike other chalybeates, it does not have an injurious influence upon the digestive organs, but even increases the appetite.

Ripperger[2] considers the preparation as a very useful and easily assimilated remedy, free from any disturbing effect upon the digestive tract.

In my own experiments with Pepto-Mangan (Gude) I have exceeded the limits of its indications hitherto maintained, inasmuch as I became convinced that this preparation should not be confined especially to cases of chlorosis and anemia, but would effect improvement in other diseases attended with weakness and exhaustion, or at least maintain the nutrition of the patient, since the peptone which it contains acts as a nutrient and deserves consideration. On this point of view I based the first series of experiments, consisting of 11 cases, in which the general result was very satisfactory. These comprise 1 case of tabes with gastric crisis, 1 case of obstinate vomiting in pregnancy, 1 case of esophageal cancer with severe stenasis, 4 cases of diabetes mellitus of slight degree, 3 cases of the uric diathesis with arthritis, and, finally, I case of leukemia. The second series of observations related especially to cases of chlorosis and secondary anemia, the latter comprising 14 cases, so that altogether 25 experiments were made.

In the following I have made a selection from this number, and almost every case illustrates the remarkable value of the preparation.

J. P., aged 33 years, butcher's assistant, consulted me June 2, complaining of constant vomiting and very violent colicky pains which occurred soon after taking food of any kind. The vomited matter contained almost always the entire food ingested, and on one occasion a moderate quantity of black coagulated blood. Pressure upon the stomach was quite painful. The diagnosis of ulcer of the stomach, to which the symptoms pointed, was discarded after a more thorough examination revealed symptoms characteristic of a tabes dorsalis. The patient within a short time had become markedly emaciated, having lost eight kilos in weight. He had acquired syphilis 12 years previously during his military service. The attacks affecting the stomach, therefore, proved to be gastric crises. After they had diminished in frequency and intensity under the use of hot poultices and strict diet, Pepto-Mangan (Gude) was prescribed at the beginning of July. At first three tablespoonfuls were given daily, added to milk, and later, when it was found that the preparation was well tolerated, it was increased to six tablespoonfuls. After the sensitiveness of the stomach had gradually subsided the patient could be discharged from treatment in the middle of August, having regained his weight with the exception of a trifle, while the crises had completely ceased.

In a case of uncontrollable vomiting in an anemic woman, 24 years old, during her first pregnancy, pepto-mangan was administered in the quantity of three tablespoonfuls daily, to which were added small amounts of cold milk. Hot applications with the thermophor were also employed. After less than four weeks the patient was discharged from treatment, improved, without any loss of weight.

Another observation relates to a case of inoperable cancer of the esophagus. The patient, 62 years old, had suffered since about one and one-half years from the neoplasm, but up to six weeks ago had been able to take, without any trouble, soft foods. Since that time, however, he had been able to swallow only small amounts of fluid. One morning, as usual, he had introduced a stomach tube himself, but during its withdrawal experienced violent pain. Since then had constantly expectorated blood. Under the use of morphene injections and the application of the ice-bag to the thorax, rest upon the back, and complete abstinence from any food, his condition improved, and on the following day a nutritive enema,

---

[1] Allgemeine Wiener medizinische Zeitung.

[2] New Yorker medizinische Wochenscrift, 1898, No. 12.

The Battle Creek Sanitarium.

This magnificent fire-proof structure which has been in process of erection during the past year will be completed and dedicated about June 1, 1903. There will be accommodations in the main building for 350 guests, and accommodations in other buildings for 400 more patients. One hundred and seventy-five rooms have private baths. The new building is equipped with five hyraulic elevators, electric lights, a private telephone in each room, and all modern conveniences. For information concerning the facilities afforded, terms, etc., address,

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Physician.

For further information address the Superintendent, St. Peter's Hospital.

consisting of milk, eggs, and red wine, with the addition of four teaspoonfuls of Pepto-Mangan (Gude) and 20 drops of tincture of opium, was administered. On the next day the same was done. After the hemorrhage had permanently ceased, nutrition by enema was supplemented by administration per os of milk and pepto-mangan in small amounts, which were well tolerated. In this way it was found possible to keep up the nutrition for a considerable time in a comparatively satisfactory manner.

I am also able to report two cases of diseases of the metabolism, namely, one of diabetes mellitus of moderate degree and one of the uric acid diathesis. The subject of the former was a man 46 years old, who since two and one-half years had constantly excreted a variable quantity of sugar in the urine. He stated that while the amount at first was only 0.7 per cent., it had increased and finally reached 3.21 per cent. After being placed on exclusive animal diet there was always a gradual subsidence of the glycosuria, the sugar disappearing completely from the urine after about 14 days. In the course of time, however, he acquired an unconquerable repugnance toward any form of animal food, and the supply of albumen could only be augmented by the addition of nutritive preparations to milk, of which he took about a quart daily. Gude's Pepto-Mangan was administered regularly in quantities up to 6 tablespoonfuls daily, chiefly to relieve the marked anemia present, which it did excellently. Inasmuch as this preparation supplies not only iron and manganese but also peptones to the organism, the patient could be maintained in a vigorous condition during six weeks.

Another patient, 58 years old, who had suffered since four years with arthritis urica, had passed three months previously through an acute gouty attack, which yielded to iodide of potassium, the former attacks having been relieved by the salicylates. The diet, which had always been somewhat abundant, was thoroughly regulated, and for a long time the patient took meat only at his midday meals, with the proportionate addition of green vegetables and some fruit, while his breakfast consisted of coffee with milk or thin cocoa, with two tablespoonfuls of pepto-mangan, and a roll, and his supper of butter, eggs, etc., and two tablespoonfuls of pepto-mangan. No recurrence of the acute gouty attack has taken place after a lapse of five months, and subjectively also the patient feels well under this regimen.

Another observation relates to a peasant girl, 24 years old, with leukemia. Examination of the blood showed that the number of erythrocytes had fallen to 1,600,000 to the cubic millimetre, while the number of leucocytes amounted to almost 90,000; poikilocytosis was also present. Among the leucocytes there were found about 6 per cent. of eosinophile cells and numerous lymphocytes. The percentage of hemoglobin according to Fleischl's method was about 20 per cent. The spleen was much enlarged, its lower margin being palpable three fingers' width below the navel. Besides the medicinal treatment with quinine and arsenic, Pepto-Mangan (Gude), at first three tablespoonfuls, later six tablespoonfuls, was added to the milk. The patient also received a mixed diet. At the end of two months she had gained 2¼ kilos in weight. If we consider that in severe leukemias the excretion of nitrogen is always increased, and that this patient before the administration of the iron preparation, in spite of an abundance of nourishment, constantly lost in weight, as shown by observations made every five days, we are forced to the conclusion that the improvement in her nutrition must be ascribed in great part to the abundant ingestion of easily absorbable albumen and the hematogenic power of the preparation administered.

Although from the cases cited above we are able to form a decision as to the action of this remedy, it may be further added that it fulfils its purpose in the majority of instances; for, aside from a marked case of phthisis with intestinal ulcers and amyloid changes in the internal organs, in which the profuse diarrhea was increased by the administration of the iron preparation, which therefore had to soon be discontinued, and aside from a case of severe diabetes, a considerable improvement in the general health of the patient could always be demonstrated clinically by determinations of the bodily weight, by the condition of the gastro-intestinal tract, and by microscopical examinations of the blood. The increase of the diarrhea in the above cases is attributable, in my opinion, perhaps to the too large quantity of the pepto-mangan administered. It is well known that all peptones and albumoses stimulate more or less the mucous membrane of the intestine, and therefore may give rise to frequent fluid evacuations. This is best avoided by keeping the daily and single doses within certain limits and not increasing them too rapidly. On the other hand, this property of the preparation can be utilized therapeutically, especially in cases attended with habitual and chronic constipation, particularly in chlorotic girls, in which the iron administered enhances the existing slug-

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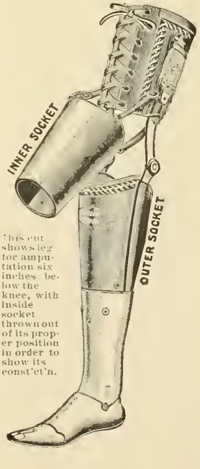

This cut shows leg for amputation six inches below the knee, with Inside socket thrown out of its proper position in order to show its const'ct'n.

gishness of the bowels, as well as in neurasthenia and similar conditions.

Inasmuch as in pepto-mangan the nucleins are completely absent, it acts as a valuable auxiliary in the treatment of the uric acid diathesis, since, according to Kossel, all nucleins have the effect of increasing the formation of uric acid. Moreover, it is entirely free from extractive matters. While the latter ordinarily constitute a very agreeable addition to the diet, and their increased ingestion is desirable in some cases, on the other hand their effect is the more injurious in various diseases, especially those of the kidneys.

Up to 1870 it was the custom in all acute maladies, and especially those attended with a typical rise of the bodily temperature, to advise against the ingestion of albumen, because to it was attributed the increase of the fever. This idea had its origin in the experience that in various acute infectious diseases, as in typhoid, peritonitis, and acute exanthemata, and even during the period of convalescence, the administration of albuminous food, of course in the unsuitable form customary at that time, was followed by a sudden exacerbation of the temperature. This, according to our present knowledge, was certainly not due to the albuminous elements of the diet, but only to their form and character, which were not well adapted to the condition of the digestive organs in these maladies. On the other hand, Pepto-Mangan (Gude) can be resorted to safely in all these cases without any fear of inducing complications in the course of the disease. In my opinion, it has, in fact, certain advantages over the customary alimentation with milk, since the latter, owing to coagulation in the stomach, assumes a firmer consistence, while the pepto-mangan is undoubtedly absorbed to a great extent in the stomach.

At any rate, the preparation, owing to its abundance of peptone, has calorically a great nutritive value, since, according to the investigations of various authors (Zuntz, Ewald, Pollitzer, Adamkiewiez), the albumoses and peptones are capable of replacing albumen completely, and when given in appropriate doses are liable to restrict, or even to arrest, the loss of fats, just like any other albumen. This is the more readily intelligible since the greater part of albuminous foods is absorbed in the form of albumoses and peptones, and reconverted into albumen by the intestinal mucous membrane and within the tissues.

If up to now I have described only cases which are intended to illustrate the utility of the preparation even in desperate conditions, I have done so in order to point out that in cases apparently beyond medical aid, and in others in which we despair of success, we should not stand by inactive. Thus, for example, in the above case of diabetes it was a matter of great importance that we were able by means of pepto-mangan to raise his nutrition, which, in consequence of his repugnance toward a meat diet, had become greatly reduced and was accompanied by pronounced anemia, to such a level that for a comparatively long period of time the patient was able to get along without any large consumption of meats.

What further incited me to report these cases was that the experiments so far made with pepto-mangan have been restricted, for the most part, to the field of iron preparations, of which an article by Dr. Roen[3] affords us a very comprehensive review. This author remarks very justly that most of the ferruginous preparations hitherto manufactured consist of albuminous material held in solution by an excessive amount of caustic soda, thus neutralizing the gastric juice, while, on the other hand, through their decomposition the irritating chloride of iron is produced; or they represent peptone combinations containing an excessive amount of mineral acids, and therefore are precipitated by the alkaline intestinal secretion and rendered less assimilable.

Pepto-mangan does not share in these disadvantages, and, moreover, owing to the presence of manganese, that excellent carrier of oxygen, is of the greatest value, especially in chlorosis, anemia, and allied conditions.

I take the liberty of reporting only two more cases from the remaining 14, both relating to chlorosis charactered by severe symptoms, and illustrating very graphically the prompt action of this chalybeate.

The first case was that of a girl, 18 years old, who presented a well-developed type of marked chlorosis. There was marked anemia of the general integument; the mucous membranes were very pale, and she suffered since the last fourteen days with persistent headache and buzzing in the head. This was accompanied by palpitation and a feeling of weakness, as well as pronounced edema of the lower extremities up to the middle of the leg. Her menstruation was very irregular and profuse. Examination of the blood showed a much reduced color index, 20 according to Fleischl's method. The number of red blood cells was reduced to 3,100,000, the white not being materially increased, Although the patient had taken the greatest variety of iron preparations, they were not well toler-

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[3] Medizinische-Chirurgisches Zentralblatt, 1902, No. 38.

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Complaints
ALTERATIVE
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Dr.______ Reports following case:

GASTRO-ENTERITIS, where there was constant vomiting. Child, twelve months old: gave one-half teaspoonful Glyco-Thymoline in hot water every hour until five doses were taken, also used Enema of Glyco-Thymoline, one tablespoonful in four ounces of water. This treatment gave prompt relief, and I believe saved the child's life.

Dr.______ Reports following case:

DYSENTERY: Patient, 16 months old, took to vomiting and running off at bowels six days before I was summoned. When I reached there, found the patient passing foul and bloody discharges, immediately put patient on Glyco-Thymoline and Liquid Bismuth, equal parts, teaspoonful every two hours; just after the second dose was given I could see a marked change. Patient improved fast, and in about three days had completely recovered.

Other similar cases treated with Glyco-Thymoline gave me equally good results.

SAMPLES ON APPLICATION

KRESS & OWEN COMPANY, 210 Fulton Street, New York

ated. I therefore decided to administer Pedto-Mangan (Gude), enjoining at the same time rest in bed, which seemed indicated, if for no other reason than that of the condition of the heart and the attacks of weakness. The patient received at first two tablespoonfuls, and after a few days three tablespoonfuls of the pepto-mangan, and this amount in the third week was increased to five tablespoonfuls daily. The effect was truly surprising; without the least disturbance of the gastro-intestinal tract, considerable improvement of her entire condition had occurred at the end of four weeks, so that she was able to be up and about. She had a good appetite, and menstruation was regular for the first time in months, while the cardiac palpitation, headache, and buzzing in the head, as well as the edema, had vanished. Examination of the blood showed 3,980,000 red blood corpuscles and a hemoglobin percentage of 50 (Fleischl). After another four weeks the patient was completely restored to health, with a hemoglobin percentage of 70 and increase in the number of red blood cells to 4,200,000.

The second case of chloroses related to a girl, 21 years old, who since the beginning of the disease had complained of marked disturbance of the digestive organs. She frequently vomited and suffered with gastric pains and an increasing feeling of aversion toward all food. In this case also an examination showed the presence of severe chlorosis, complicated with anemia and emaciation due to the much-reduced ingestion of food. This case was the more welcome to me because it afforded a crucial test as to whether pepto-mangan can really be taken without any disturbance of the gastro-intestinal tract. I administered at first very cautiously, only three teaspoonfuls of the preparation, and, as this was completely retained and seemed to cause no disturbances of any kind, I increased the quantity on the third day to two tablespoonfuls, and during the following days to four tablespoonfuls, which dose was not exceeded. The preparation, therefore, completely fulfilled my expectations. In the course of three weeks the gastric and intestinal troubles had disappeared, the patient regained her appetite and was able to take an abundance of food, so that her weight had soon reached its normal level, while simultaneously with the disappearance of the chlorotic condition a considerable improvement in the state of blood ensued.

In conclusion I would only add that during the administration of the pepto-mangan no unpleasant by-effects have been observed, and that the preparation has always been willingly taken.

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Uses and Action of Bromipin.

Dr. Honigschmied reports that he regularly uses bromipin in all affections in which bromine preparations are indicated, and always obtains very good results. He has employed it in vertigo, cerebrospinal meningitis, nervous insomnia, recent cases of chorea, in nightmare, melancholy, epilepsy and neuralgia. In cerebrospinal meningitis after emptying the bowels, an enema of 5 to 15 Gm. (1¼ to 4 dr.), according to the age of the child, of slightly warmed bromipin is given; of course, ice applications and other antipyretic treatment are not neglected. In a short while the convulsions cease, the patients become quiet, and, as a rule, fall asleep. Two or even three such enemas may be given in the course of twenty-four hours.

Details of a few specially interesting cases are given as follows:

Man, with nervous vertigo and disturbed sleep; occasionally nocturnal emissions. Two tablespoonfuls of bromipin were given at night; no change in mode of living. On the second night the patient slept quietly all night; the next day he was free from vertigo, and in five days he was discharged cured.

Girl of eleven; convulsions of the muscles of the jaw and upper extremities, persisting in spite of treatment the next day; no albumin; no fever; pupils normal. An enema of 15 Gm. (½ oz.) of bromipin was given, and in two hours the convulsions disappeared. They returned the following day, to recede again on administering an injection of bromipin. After this a table spoonful of the drug was given daily per os for a week; no further attacks for six weeks. Another recurrence was promptly checked by the same treatment as before, and the use of bromipin for several weeks permanently cured the case.

A woman; after excitement during the day, screamed at night in a semiconscious state and with hallucinations the attacks lasting ten minutes. A number of physicians failed to bring permanent relief. The author administered about 2 dr. of bromipin at night, soup constituting the evening meal. After the attacks ceased to appear the dose was reduced to 1 dr., which was taken for four weeks. There have been no further attacks (several months after).

A woman; marked melancholy; sleep disturbed. Had taken bromides; there was bromine acne on the chest, back, and neck. Still, 12 Gm. (3 dr.) of bromipin were given three times daily. In three days considerable improvement set in; bromipin reduced to 1 teaspoonful in the morning, and 2 teaspoonfuls at night, and a week later to 1 teaspoonful daily, and continued thereat for four weeks; when the patient was regarded as completely cured.

Case of epilepsy in an anemic girl of nineteen. Besides iron, 2 tablespoonfuls of bromipin were given daily for two months. After that there were no attacks, although a year elapsed.

A girl of five years with epileptic attacks daily; 20 Gm. (5 dr.) of bromipin was prescribed daily. The attacks at once became milder and did not reappear after five days. The dose was then reduced to a teaspoonful daily. The child took in all 800 Gm. (27 oz.) of bromipin. There has been no relapse.

An anemic boy of fifteen with bicuspid insufficiency, was suddenly attacked with convulsions of the right side of the body, and in his sleep he often talked incoherently. After giving a purgative and applying a vesicant to the nape, 30 Gm. (1 oz.) of bromipin was administered, and repeated the next morning and night. The convulsions quickly became very weak and vanished completely in two days. Now 15 Gm. were given only at night, and continued for a week. Tonics and iron then completely restored the patient.

Dr. Honigschmied observed good results from the use of bromipin also in nervous palpitation and in intercostal neuralgia.—Aerztl. Rund., 1903, No. 6.

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The following Committee of Organization for the United States for the Eleventh International Congress of Hygiene and Demography, to be held in Brussels, September 2-8, 1903, has been appointed, at the request of the Belgian government, by the State Department:

Dr. E. A. de Schweinitz, the Columbian University, Washington, D. C.; Dr. A. B. Richardson, the Columbian University, Washington, D. C.; Dr. John Marshall, University of Pennsylvania, Philadelphia, Pa.; Dr. Harrington, Prof. of Hygiene, Harvard University, Boston, Mass.

The committee desires to secure the cooperation of all those in this country who are engaged in hygienic work, both in attendance at the meeting in Brussels, and in sending papers to the Congress. The Congress will be divided into two sections, 1st, Hygiene; 2nd, Demography. The subjects which will be considered are the relation of bacteria and parasites to hygiene, the hygiene of foods, the treatment and prevention of communicable diseases, &c. The important subject in its various phases of the communicability of tuberculosis will be discussed by prominent men.

The fee for membership is 25 francs, which may be sent to the Secretary-General, M. le Dr. Felix Pulzeys, Rue Forgeur, 1 A Lidge, Belgium. Those proposing to attend or send papers will please notify E. A. de Schweinitz, Washington, D. C.

Severe Reflex Pain.

J. H. Tilden, M. D. of Denver, in the June number of the *Chicago Medical Times*, in an article advocating the use of tampons in gynæcological practice, reports, among others, a case which was characterized by severe reflex symptoms, and which had not yielded to the treatment accorded by two other practitioners. Dr. Tilden's procedure was, the introduction of a glycerine tampon and the administration of antikamnia in ten grain doses (two five-grain tablets) to relieve the pain. The tampon was removed each night at bedtime and followed with hot water injections. The patient on being discharged, remarked, that since following this treatment she could run the sewing machine without the usual pain and tired feeling.

In this issue of the Journal the CaPhenin Chemical Companies' advertisement appears for the first time. They offer one of their cans of CaPhenin for one-half price from now until August the 15th. This is a fine opportunity for any physician to use this most excellent preparation. In writing to them please mention this journal.

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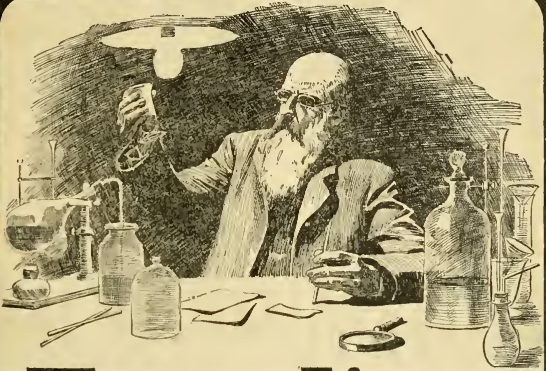

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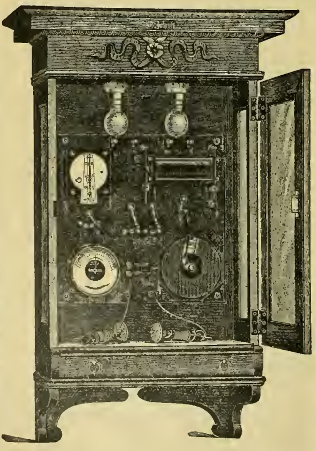

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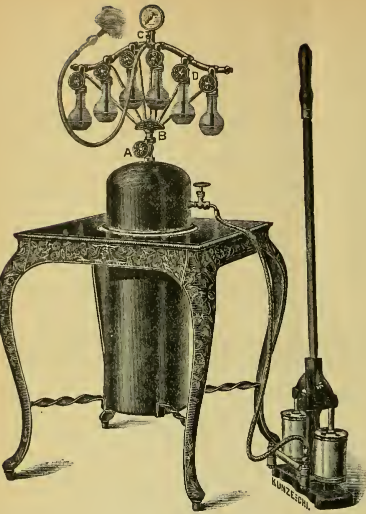

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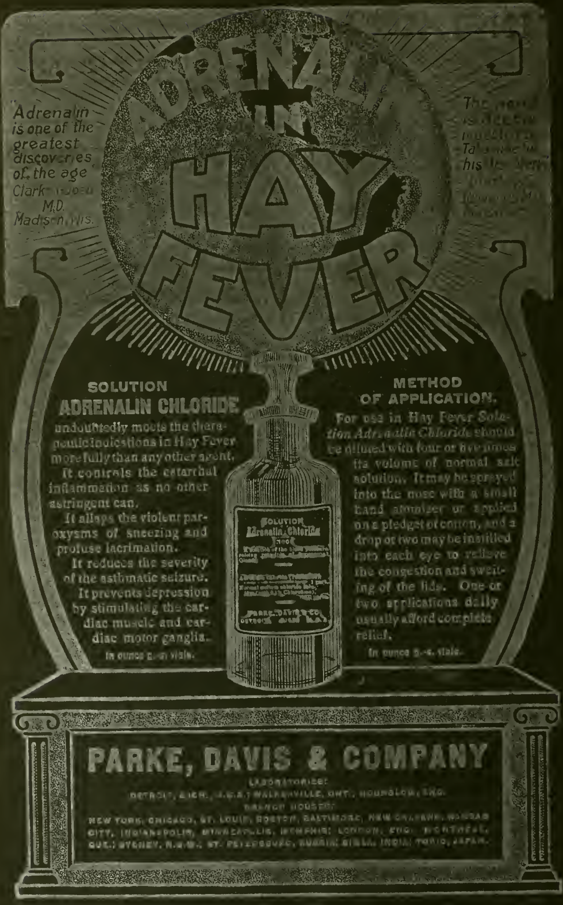

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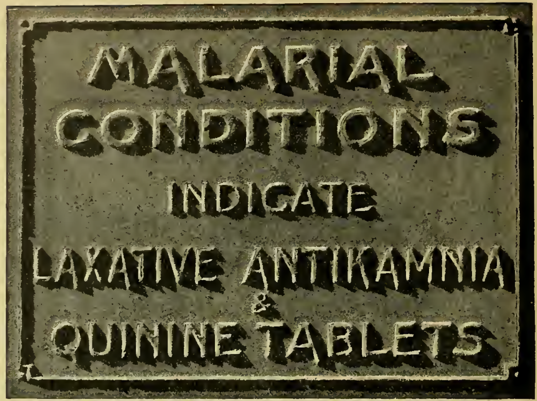

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"Natural Lecithine extracted from the yolk of Egg, contains Phosphorus under that "very active organic form which is peculiar to medicaments elaborated by living bodies."

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FOR ALL
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·A thorough eliminative
FOR THE VARIOUS FORMS OF
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AN INFALLIBLE REMEDY FOR
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CONTAINS NO MORPHINE NOR OPIUM
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Dose: One or two teaspoonfuls, diluted in a copious draught of water every two hours each meal and before retiring.
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DOSE
One to three teaspoonfuls, according to the amount of Bromides required

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One to two teaspoonfuls three times a day

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Are assured in Bromide treatment when you specify

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Neurologists and General Practitioners prefer it because of its superior qualities over the commercial salts. Each fluid drachm represents fifteen grains of the combined chemically pure Bromides of Potassium, Sodium, Ammonium, Calcium and Lithium. : : : : :

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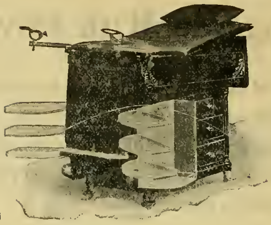

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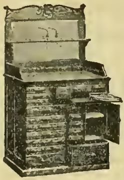

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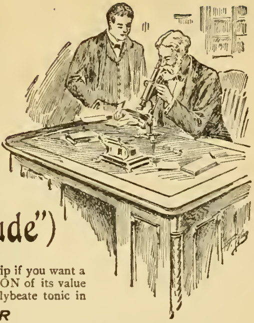

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FORMULA:--One fluid drachm is equal in anodyne power to 1-8 gr. Morphine.

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A Valuable Adjunct to the Physician in the Treatment of Fevers, Malarial, Typho-Malarial and Typical Typhoid. A Preventive of Post-Scarlatinal Nephritis.

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SYRUP HYPOPHOSPHITES COMP. WITH QUININE. STRYCHNINE AND MANGANESE.

1-128 grain Strychnine to teaspoonful.

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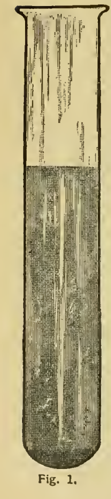

Fig. 1.

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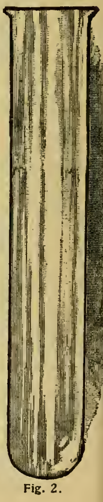

Fig. 2.

The Charlotte Medical Journal.

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Annual Oration—The Causation of Disease.*

By Joseph Graham, M. D., Raleigh, N. C.

Mr. President, Ladies and Gentlemen:

With the universal progress in education the time has arrived when we as physicians are no longer allowed to simply enter the home, prescribe our medicines and depart. Our patients desire more, they desire to know the nature and cause of the sickness and probable channel or channels through which the disease was contracted. If the physician cannot supply reasonable answers to these questions he need not be surprised to find himself replaced by some one else who can. There is every moral reason why we as educated and conscientious men should endeavor to ascertain the causes of disease. We should make this effort not only for our own patients, but for the benefit of the community of which we form a part, with a view to its prevention; and this too, regardless of whether it be of direct profit to us or not.

The causes of disease are manifold. With the exception of traumatism and direct poison there is no single absolute cause of disease. The abnormal condition we term disease represents the termination of a chain of circumstances, the links of which are the causative factors. In the production of disease there are many factors concerned and these must be considered. For example, we say that consumption is due to a specific micro-organism, and this is true, yet no one believes that if to a number of healthy individuals this germ gains access, tuberculosis would result in all cases. The disease producing powers of the micro-organism vary so that at one time it is feeble yet again most virulent, also the condition of the individual is modified by certain influences, some of which place him in a condition to survive exposure while others depress his normal vital resistance and make his body a fertile soil for the growth and reproduction of all infecting micro-organisms. Therefore certain influences act as predisposing factors while others are directly concerned in disease production.

Agencies that tend to reduce the general health, such as exposure, fatigue, mal-nutrition, debauch, etc., render individuals more susceptible to disease.

The greatest number of deaths occur before the age of five and after the age of 65, indicating that at these periods the vital processes are at the one time imperfectly developed while at the other they are declining in efficiency. The most frequently encountered diseases of infancy and childhood are those connected with the development of anatomical structures and the establishment of physiological functions, also those due to congenital defect and hereditary tendencies.

Certain of the acute exanthemata as measles, scarlet fever, chicken pox, etc., are much more frequent in childhood, therefore these acute exanthemata are rare in adult life because a single non fatal attack confers a more or less permanent protection to that child from subsequent attacks of the same disease at a later period of life.

Adult life is not conspicuously more prone to one disease than to another. An adult's freedom from or affliction with disease depends very largely upon the conditions under which he lives. If an individual pays due attention to exercise, sleep, diet, clothing, cleanliness and hygienic surroundings there is no reason why he should not be comparatively free from disease. If, on the other hand, his life is passed under conditions of extreme poverty, overcrowding, intemperance, exposure to excesses of heat, cold and moisture, foul air, bad food, impure water and exposure to contagion there is every reason why he should fall a prey to disease.

The diseases of old age are mainly degenerative in their nature, the commonest are diseases consequent upon intemperance, rheumatic and gouty affections, cancer and tumors.

Insurance statistics show that the general death rate among females is universally lower than among males, and insurance companies assign to women a longer expectation of life. This is probably due to the fact that men during the course of their daily life are brought into closer contact with a greater variety of surrounding conditions that may influence their health than are women.

Before the age of puberty the sexes are less markedly differentiated in relation to disease. The influence of age and sex upon mortality is very strikingly shown by the study of cancer and anæmia. For six years, ending in 1890, according to the 11th United States census, there occurred in New York City 48 deaths from cancer in indi viduals under 15 years of age. Of thes 24 were in males and 24 in females; for th ages between 15 and 40 years there were 78 deaths from cancer; of these 222 were in males and 560 in females. Anæmia resulted fatally in 49 cases under 15 years of age; of these 22 were males and 27 females; it caused the death of 86 persons between the age of 15 and 40; of these 18 were males and 46 females. Males die more frequently from alcoholism, lead and other forms of poisoning, diseases of the heart, liver, stomach and kidney and accidents. Females succumb more frequently than males to anæmia and cancer.

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* Read before the North Carolina Medical Society at Hot Springs, N. C., June 3, 1903.

Certain races exhibit a peculiar susceptibility to certain maladies, while others possess a comparative degree of immunity from them. It is very difficult to obtain trustworthy facts that are of universal value in deciding the influence of race upon disease. It is generally agreed that the negro is less susceptible to yellow fever than the white, and the white man less susceptible to cholera and tuberculosis than the black man. The Jew escapes from tuberculosis and diseases in general more frequently than any other race of mankind. The German is the most frequent subject of cancer, but there is no disease from which any race possesses absolute immunity. A study of the actual deaths among the different races recorded by our census is very interesting, but the results obtained are not trustworthy for they are subject to great variations in different localities. For instance in New York the lowest death rate has been among the Russians and Jews and the highest death rate is among the Italians. In Boston the highest death rate is among the Irish and the lowest among the French. The most constant racial influence upon the susceptibility to disease is found in comparing the death rates of the white and negro population. The death rate for all ages and from all causes is universally higher among the negroes. This is probably due to social conditions and general hygienic surroundings and not to any racial peculiarity. Insurance companies give the Jews a longer expectation of life than the Christian, the average duration of life among Jews being 48 years and of the Christian 36. This is probably due to the fact that the Jew drinks less, he takes better food, he marries earlier, he takes better care of his children, of his poor, of his aged and of himself.

The increase in industries is accompanied by an increase in the death rate. Disease is not due to the work itself, but to the conditions under which the work is performed, such as over-crowding in badly heated and poorly ventilated buildings, inhalation of dust and continued exposure to heat, cold and moisture. These influences produce a reduction of the normal vitality and later the individual is a victim of disease. The effect of dust inhalation seems to depend upon the kind of dust that is inhaled. The dust of soft wood is comparatively harmless, while that of hard wood is very irritating. The most injurious dusts are these produced in the textile mills and it is among this class that we find the largest percentage of tuberculosis. A peculiar state of affairs is found by studying the coal miners. While constantly inhaling an irritant dust which produces a pathological condition known as anthracosis, yet these people are comparatively free from consumption. Dust inhalation may produce disease in another and a common way, by carrying disease germs. The dried sputum of the consumptive becomes an impalpable powder and mixes with the air; and inhalation of this tuberculous dust is a common method of the dissemination of the disease. Certain industrial pursuits expose the workmen to influences that are directly concerned in the production of disease. Such occupations as I refer to are the handling of poisons, as phosphorous by match makers, arsenic and lead by painters, etc. It is very interesting to compare the mortality tables of the different occupations.

Comparative mortality of men from 25 to 65 in different occupations:

Clergymen,	100	Lawyers,	152
Doctors,	202	Agric'l laborers,	126
Com'cial clerks,	179	Liquor dealers,	274
Brewers,	245	Butchers,	211
Bakers,	172	Carpenters,	147
Blacksmiths,	175	Cotton manuf'rs,	196
Coal miners,	160		

The influence of crowding on the death rate is very interesting. It is undoubtedly true as the ratio between the number of inhabitants and the living space is lessened the death rate increases. This increase is due to the generally unhygienic conditions under which these people live, such as filth, bad air, bad water, poor food, etc., opportunities for direct infection, for the less the distance the more likely is infection to spread.

The question concerning the direct transmission of disease from parents to offspring is one over which there has been a great deal of controversy. With regard to some of the acute infections there can be no doubt that such a transmission does occur. As regards tuberculosis, while it may occur before birth hereditary tuberculosis is a rarity. The part played by heredity is the transmission of an enfeebled constitution with a special predisposition to this disease, and as the child is raised in a tuberculous environment it meets with accidental infection from intimate association with its tubercular parent. This enfeebled constitution and tendency to disease is especially noticed in the nervous disorders of some families. The transmission of a tendency to disease is due fundamentally to the same processes through which peculiarities of a mental, moral and physical nature are transmitted. In the months of low temperature and excessive moisture the catarrhal disorders especially of the respiratory tract are most frequent, the atmospheric conditions do not alone cause disease, but also the overcrowding in over-heated and poorly ventilated rooms must be considered.

The acute infectious diseases of children are also more frequent in the winter months. This frequency is probably due to the fact that the children are at school and in more or less close contact with one another.

Of all the predisposing causes of disease alcoholism seems most productive. The effect of the alcohol depends upon the form in which it is taken. When taken dilute, and especially as beer, it produces a fatty infiltration especially of the liver, heart and kidney, when taken in a concentrated form, as whiskey it produces a low grade inflammation resulting in over-growth of connective tissue by its direct irritant effect on the structures with which it comes in contact. Statistics show that alcoholics have the highest rate of mortality, and that 55 men engaged in liquor trade die from alcoholism to every 10 in all other occupations. Of liver diseases 10 are caused by alcohol while one is caused by all other affections. Diseases of the heart, arteries and nervous system are far more frequent among those engaged in the liquor trade.

Patent medicines are a source of great danger to the public health through the great amount of opium, cocaine and alcohol that they contain and thus often induce or encourage dangerous habits. I think you will be astonished to learn the percentage of acohol contained in some of these so-called medicines. I have seen it stated that Hood's Sarsaparilla contains 18 per cent., Brown's Iron Bitters 19 per cent., Paine's Celery Compound 21 per cent., Ayer's Sarsaparilla 24 per cent., Hostetters Stomach Bitters 44 per cent. Many million dollars worth of these alcoholics are sold every year and many individuals are ignorantly and secretly turned into drunkards. Beer contains 2 to 5 per cent. alcohol. These bitters are stronger than claret, champagne, port, sherry and often whiskey, yet they are allowed almost free sale and a crusade against beer is continued. Alcohol causes at least one-half of the criminals, insane and dependents that our State has to support, what proportion of these result from imbibing patent medicines no one can estimate, but the number is large. Then too our ignorant classes pay high prices for these so-called medicines, and they are not only worthless as remedies, but injurious to health. Ordinary whiskey as sold in the saloon is not as strong in alcohol as some of these medicines which are recommended for the treatment of the alcoholic habit. Some nerve nostrums contain more opium than is contained in paragoric, and are recommended for the cure of the morphine habit and allowed free sale. I believe the Temperance Societies would do a great good if they would organize a vigorous crusade against the sale of these so-called medicines. The life insurance companies seem to be the first to recognize the great danger of patent medicines, and it is with pleasure that I note one company requires the examiner to ask the applicant what patent medicine he has used in the last five years. The Journal of the American Medical Association says this is a step in the right direction, for any one who will take a department store pill for the liver is not a fit subject for life insurance. Physicians vary in their opinions as to whether opium, alcohol or cocaine is the most generally harmful constituent of these so-called cures. They are all dangerous, and through their use many become subject to disease. It is a well known fact among hospital physicians and nurses that a man addicted to the use of alcohol who falls ill or has to undergo a surgical operation does not stand nearly so good a chance for recovery as a total abstainer. Even a moderate drinker has a harder fight for life, while the habitual drinker not only fails to respond to alcohol but also to all other drugs, and he often succumbs to a slight illness or injury-

The opium and cocaine habits are certainly on the increase. Since 1898 the population of the United States has increased 10 per cent. The opium imported, however, has increased 500 per cent. and this too despite the fact that it is less frequently used by physicians than in years past. Last year we imported over 700,000 lbs. of opium and a ton of morphine which will be disposed of in less than one grain doses. The importation of cocaine also shows a decided increase,—the amount imported in 1902 being three times as much as in 1898. Pharmaceutical statistics show that both of these drugs are used less now by physicians than in former years. What becomes of this superabundant quantity? It is compounded into nerve-nostrums and is sold to the drug fiends and ignorant members of our lower classes

THE EXCITING CAUSE OF DISEASE.

There are certain chemical, physical and vital agents that are capable of producing disease without the aid of predisposing conditions. The direct chemical cause of disease may have its origin outside of the body as the result of mal fermentation and other derangements of physiological functions. Of the external causes the most frequent are the poisons used in the various industries, as phosphorous, arsenic and mercury, and such drugs as opium, chloral and alcohol. We know little of the chemical agents developing within the body, they represent intermediate products in the process of nutrition which through physiological defects are not completely elaborated and which in this condition possess poisonous peculiarities. The most frequent direct causes of disease are the living, vegetable and animal parasites, which, having gained access to the body, produce certain changes of the structure of the tissues and disturbances of the important vital functions. The disturbance of functions that results from the growth and development of such parasites in the body depends upon the kind, nature and location of the invading micro-organism and also upon the vital resistance of the individual. Certain micro-organisms affect certain tissues while others affect different structure, and therefore the resulting symptoms vary according to the nature of the organism and its location in the body.

The vegetable parasites are called bacteria, and the diseases produced by them are termed infectious diseases. When an infectious disease is capable of being transmitted from one individual to another by direct contact it is known as a contagious disease.

The infectious diseases are disseminated by means of the water, air, soil and food to which the bacteria, from a case of infectious disease have gained access. The bacteria gain entrance to the human body by being swallowed, inhaled and through abrasions in the skin; also they may be transmitted in utero from the maternal to the fetal blood. The mode of entrance in individual diseases depends upon the nature of the bacteria, their habitat and surrounding conditions. How do we determine that certain bacteria produce certain diseases? By complying with the laws of Koch, which must be conformed to before the specific relationship of bacteria to disease is admitted. The laws of Koch are,

First. The bacterium must be found in a diseased person.

Second. It must be cultivated upon media outside of the human body.

Third. Pure cultures introduced into a healthy animal must produce the disease in the animal.

Finally the bacteria must be recoverable from the animal.

Many bacteria will conform to the laws of Koch while others do so in part only or not at all. Many diseases are known clinically to be infectious, yet we have not been able to isolate the causative agent.

In certain diseases a definite species of bacteria is constantly found, yet when inoculated into the lower animals has failed to produce the chain of symptoms developed in the human body. When subjected to conditions unfavorable to their growth and development, bacteria are capable of making certain changes in form and thus increase their resistance to the deleterious conditions. Later, when placed under more favorable conditions. they return to their normal morphology and again persist in their disease producing powers.

REFERENCES AND AUTHORITIES QUOTED.

Text Book of Pathology—Stengel.

Notes on Pathology—Guiteras.

Hygiene of Transmissible Diseases—Abbot.

Medical Diagnosis—Musser.

Diseases of Women—Penrose.

Practical Therapeutics—Hare.

Pathological Technique — Mallory & Wright.

Clinical Diagnosis—Simon.

Diseases of Infancy and Childhood—Holt.

Pædriatrics Rotch—Maud Baufield, in Ladies Home Journal, May, 1903.

Symptoms and Treatment of Diseases of the Antrum of Highmore.

By W. K. Lane, M. D., Goldsboro, N. C.

My reason for choosing this subject is because it has not received at the hands of the general practitioner of medicine the consideration which its importance demands, and the failure of early recognition and prompt treatment has been responsible for much unnecessary suffering and serious consequences which might have been arrested. In the minor surgical respect it has been tossed between the dental surgeon and the physician, and neither looking upon it with the interest it should have received.

I, therefore, desire to call your attention to the diseases, and treatment of such, of the Antrum of Highmore. I will not go into the full details of the anatomy of this cavity and its surrounding structure, but confine myself to the diseases, causes, symptoms and treatment, touching only on the pathology when necessary.

The cavity known as the Antrum of Highmore, or maxillary sinus, is situated in the body of the superior maxillary bone on either side of the nose, beneath the orbit and the floor formed by the alveolar pro-

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* Read before the North Carolina Medical Society at Hot Springs, N. C., June 3, 1903.

cess immediately above the first and second superior molars and bicuspids. This space is often divided into several parts by verticle septa. There are two openings into the middle meatus of the nose, which in normal conditions are very nearly closed by a folding of the membrane lining the other adjacent bones. This mucous membrane which lines the nares passes through these openings and lines the cavity also. For further information I refer you to your anatomy. On account of this matomical structure there are many peculiarities favorable to the origin of many morbid conditions.

It is without doubt the case that many of the cases of nasal troubles which we are called upon to treat, and which refuse to respond to treatment, however correct it may be, will upon careful examination be found to be aggravated by some active pathological process in the accessory sinues.

On account of the close relationship of the teeth to the antrum, the extraction of a tooth has given fairly free bucal communication to the antrum and thus played an important part in the etiology of many pathological conditions. Too much importance cannot be attached to the teeth as a causal factor of many morbid lesions, and I believe the majority of cases can be traced to them.

Occasionally branches of the superior dental nerve cross the floor of the antrum, being covered by a slight layer of mucous membrane, and as a result of slightest inflammatory process or accumulation of fluid, causes pain out of proportion to the other symptoms. Acute inflammation of the cavity may arise from an extension of the inflammatory process from the nose, or may be attributed to the temporary closure of the antrum maxillaries or antral openings. Some cases may be traced to the entrance of discharge from the frontal or ethmoidal sinues through the antral opening, or an abnormal one; from traumatism or accompanying infectious diseases; from some distant lesion or associated with systemic poisoning from some drugs or metals.

The symptoms of this condition are not very characteristic, consisting of deep-seated pain in the upper jaw of the affected side, with pain in the teeth supplied by the nerves crossing the floor of the sinus, the pain being intensified on slight tapping of the upper teeth. On inspection of the nasal mucosa on the affected side there is usually some swelling or oedema. Chronic catarrhal inflammation may be the result of repeated or prolongation of the acute forms, or of the entrance of some foreign substance.

The symptoms may be either a dull ache or a sense of uneasiness, with discharge of a clear, glassy muco serous tenacious material, upon evacuation of which the patient feels relief; but if the evacuation of this should be prevented by the closure of the openings, distention of the antrum occurs, and dullness and fluctuation elicited; the swelling becomes more noticeable, the cheek swoolen, the teeth sore, with the sensation of being too long; the eyes congested, and the palate may be bulging, due to congestion of the overlying structures; the severity of the pain increases and greater discomfort experienced until relief is obtained.

Acute purulent inflammation or empyema is, as a rule, the result of a catarrhal inflammation where the secretion is dammed up, or mucosa organism assuming a purulent character gain entrance. This may be affected in several ways, as by discharge from the adjoining sinuses; but the majority from a diseased tooth-root, or from the mouth through a tooth socket. Seventy per cent. of the cases are said to be due to this cause. There is a copious umlateral discharge of pus from the nostril, which is either constant or at marked remissions, which may be increased by the inclining of the head forward and to opposite side. There is pain varying in intensity with the patulency of the antral openings, usually of a dull, heavy character in the cheek and side of head, and other symptoms of the chronic catarrhal inflammation. Pus may be observed, if there is an opening in the socket of an extracted tooth, and there may occur manifestations of mild systemic infection. As the pus accumulates the pressure the walls are subjected to, together with the deritilized condition accasioned, may cause absorption of the bone and necrosis, and the contained fluid discharged through an opening thus established into the orbit, or by the side of the teeth. At times, before this takes place, there may be occasioned disturbances of the vision, and may lead to total blindness by displacement of the eyeball. Cases have been reported where the pus gained entrance into the orbit, passing back through the optic foramin to the anterior surface of the hemispheres of the brain exciting inflammation and cerebral abscess and on to death. But fortunately such extreme cases as these are rare.

The acute attacks may continue into the chronic, or the chronic form may be due to the causative influence of a carious tooth, or abscess sac at the tooth root, or may be the result of the irritation by some foreign body. Some authors give two classifications of the chronic form, which are the acute and the latent. By the acute is meant that there is free exit of the pus; whereby is meant by the latent when the pus accumulates and there is no opening for escape. The symptoms for the most part are either modification or intensification of the acute variety, with variances in the amount of discharge, at times scanty, of a bright yellow color, and of more or less foetid odor, from which the patient is more or less depressed and gloomy, general health impaired, and frequently systemic symptoms. In many instances gastric disturbances are occasioned by the frequent swallowing of the discharge. There is more or less pain referred to the frontal and supra-orbital regions of an intermittent character. Of the many causes of the latent they may be the same as the acute, or may be due to inflammation and hyperplasia of the nasal mucosa. Here we have soreness in the region of the antrum, soreness and pain on percussion of the teeth, and other symptoms of the abscess. The pain is at first slight, becomes progressively worse, with the addition of the throbbing and beating character, and a dull pain referred to the nose, supra and infra-orbital region. As the severity continues, there occurs disfigurment of the surrounding tissues on account of the progressive accumulation of the discharge forcing out the surrounding walls. There occurs simultaneously with these the other symptoms of acute empyema.

Tumors of the antrum for the most part are myxoma and osteomo, fibroma, enchondroma, angioma, sarcoma and carsanoma.

Cysts and cystic degeneration are more common than the other tumor formations, occurring as retention cysts and cystic degeneration of mucous membrane following any of the inflammatory processes.

Papelloma are occasionally found in the antrum, and these may later on devolop into carcinoma where it is subjected to chronic irritation, or may develop into a sarcoma if injured. Sarcoma occurs in the antral cavity arrising from the fibrous tissue of the sub-mucosa, periosteum, and from the bone, and spread to the adjoining structures by the blood vessels and contiguous strictures usually attaching the deeper elements.

Carcinoma on the other hand usually attacks the superficial structures and spread by the lymphatics. Both of these embryonic cell tumors may be primary or secondary. Polipi and various kinds of tumors occur in the antrum, and these constitute the most dangerous forms of trouble antrum is subject to. If these tumors are removed in their incipiency, a cure is more to be expected, though larger and more developed tumors have been removed with good success. Some have gained such an extent that the superior maxilla has had to be removed.

In prognosing the foregoing conditions it is of importance to diagnose the case early, and the earlier the attention the more you may expect success, which if delayed renders cure less easily of accomplishment. The general state of health plays an important part in the prognosis.

In treating acute catarrhal inflammation you should apply treatment to the existing inflammation of the nose, and as the antral openings are occluded a few drops of a cocaine solution or solution of adrenilin chloride applied around the opening assists materially in reducing the inflammation and securing drainage. Application of cold is a great benefit, and assistance is rendered by general treatment of nasal catarrh. If these fail, resort to the surgical opening of the antrum at the most dependent part. This may be through the canine fosa, or through the alveolar process. If the set of teeth is complete, opening may be made either between the first and second molars, or the first molar and second bicuspid, affected by using a trochar, small gimlet or ur; but if tooth is out, make opening through tooth socket; after opening irrigate and secure drainage.

In the treatment of the chronic catarrhal inflammation the foregoing will in some conditions suffice, but when infection is present and pressure symptoms arise from accumulation, a thorough opening should be made establishing free drainage, and some cases require curettment. In the empyemic conditions, whether it be acute or chronic, you should be guided by the causal factor. If due to dental causes or diseased tooth, the treatment is from below. If the tooth is doomed, then extract and make opening through into the cavity, thus evacuating the pus and establishing free drainage, and treatment administered. But if the cause is from an existing nasal lesion, then treat from the nasal cavity, treating the existing nasal lesions, reducing them to the normal condition, and using disinfecting sprays or irrigation of the sinus through the antral opening or through opening made through the lateral wall into the cavity; which can be best affected by opening the sinus through the inferior meatus with a sharp spear-shaped knife, antral drill, curved trochar or cannular, introduced into the nastril until it reaches position under the natural antral opening, and then turning the point outward make a quick thrust into the antrum. (Method given by Mikulicz.) After opening the antrum irrigate thoroughly with a warm boric acid or normal salt solution. If these irrigations do not suffice, a solution of sulphuric acid, very weak, is of benefit. But in using astringent irrigations always remember that here you are dealing with a delicate mucous membrane, and therefore have your solution, as a general rule, mild. I believe the recovery of many cases is retarded because of over-treatment. Many advocate the use of hydrogen peroxide, but I believe it is used too frequently. If used, it should not be used more than half strength. The opening should be kept open by packing with antiseptic or aseptic gauze. If the tendency is to continue on the presence of granulations, then enlargement of the opening, a thorough curettment and packing the antrum is of benefit. In the treatment of the cystic conditions of the antrum it may be only necessary to open the antrum as in the pyemic conditions and curettment; in other instances it will be necessary to expose the outer surface of the antral wall and remove a portion of it, thus reaching the cavity and removing cystic conditions. The treatment for the malignant tumors is by the knife, and in most cases removal of the upper jaw. As this operation is so well described in all the modern surgical works, I will content myself by referring you to them.

Appendicitis from the General Practitioner's Standpoint, with Report of Cases.

By J. Meigs Flippin, M. D.

Mr. President:—In presenting this much wrote, much discussed, and much operated on disease for your consideration, I must admit I have nothing new, strange, or enlightening to the abdominal surgeon.

My apology for presenting this subject at all, is the fact that appendicitis is one of the most fatal (surgical) diseases in which the general practitioner has to confront him; one upon which his judgment, the issues of life and death, largely depend. Shall he assume the responsibilities of the case? and treat it medicinally, or expectantly? or shall he call in his brother, the abdominal surgeon, to help him bear the responsibilities of so grave a surgical malady? This is a question every physician, sooner or later, must answer for himself; and upon the issues of his answer depend the health and happiness of his patient, or the whip that scourges his conscience—remorse.

I don't mean to say that all cases of appendicitis must be operated upon. But I do say the vast majority should. And, furthermore, it is a question for the abdominal surgeon to decide, and not the general practitioner, as to the advisability of an operation.

Any one doubting the wisdom of these remarks, has but to glance over the columns of any of our daily State papers and see where some prominent man has died of appendicitis—I might say, caused by procrastination.

The caput celum coli is the large blind pouch which represents the inital portion of the colon. It is that portion of the colon which lies below the ileo cecal valve. It is about two and a half inches in length by three in breadth. Its usual location is in the right iliac region, lying upon the psoas magnus muscle, and its most dependent portion, its apex, just beyond the inner edge of the muscle. Externally this corresponds to a point slightly to the inner side of the middle of Poupart's ligament. This is its normal position, but may vary widely on account of distention, or failure to descend; or it may hang over the brim of the pelvis. I have seen one case where the cecum and appendix were on the left side. If distended, it may occupy the whole of the right iliac region, but, if empty, it is covered largely by the small intestines.

Whether the vermiform appendix is an atrophied or degenerated organ, as claimed by some of the best pathologists; or, as claimed by the other faction, an arrested organ in its development, I leave them that know best to contend. But that it is an organ that constantly plays hide and seek with death, all must admit. It is usually attached, close to the ileo-cecal valve, on the inner and posterior side of the bowel. It may appear as a continuation of the long axis of the colon. Its length varies from one to nine inches, its usual length being about three inches. Its size that of a lead pencil.

The appendix usually has a mesentery, which extends about two-thirds of its length. In the female the meso-appendix has a prolongation which is lost in the broad ligament. The appendix may be straight, curved or corkscrew. The structure of the appendix is similar to that of the intestines, but not identical with it. The peritoneal covering may be complete or partial. The muscular layer consists of a few long, nonstraited, muscular fibres. The inner part of the muscular coat forms the chief body of the appendix- The mucous coat having a thin muscularis mucosa, and lined with cylindrical epithelium. The appendix is rich in lymphoid tissue, a prime cause of inflamation in this organ. The vermiform appendix has a centrol cavity extending its entire length, ending in a cul-de-sac. The blood supply is derived from superior mesenteric, ileo-colic, right colic and middle colic arteries. From these arise the appendicular branch, which is the chief nutrient artery. The blood supply is chiefly a terminal one. The nerves of the appendix are derived from the superior mesenteric plexus of the sympathetic nervous system, which likewise supply the small intestines. This accounts for the general pain in appendicitis. The functions of the appendix are its delightful field for the growth and culture of pus-producing bacteria, on account of its abundant lymphoid glands; and a delightful revenue for the abdominal surgeon and undertaker. Otherwise it is a function-less organ.

The causes of appendicitis are those you would naturally expect in an organ of low vitality, situated where it is subjected to constant changes in its position; to its constant lodgment of fecal matter and possibly other foreign bodies within its small lumen; and the constant irritation caused by these same foreign bodies, which are most favorable for infection of its tissues. I will state here that the valve to the appendix—if a valve—is a very imperfect one, and does not prevent the entrace of fecal matter or other foreign substances.

The blood supply of the appexdix, being a terminal one, is subject to interference in its return flow by any substance within the lumen of the appendix, or by any constriction, either foreign or inflammatory, is more than likely to produce gangrene of the tip of the appendix, and death in a few hours, unless relieved at the very outset by surgical interference. This has been termed the fulminating type of appendicitis. We have inflammation caused by pyogenic micro-organisms, the same as other organs of the body. The different forms of this special inflammation might be divided into catarrhal, purulent and fibrinous, these occurring either separately or in combination. Then we have the specific form, caused by a specific micro-organism, as the tubercle bacillus and the typhoid bacillus. Then we have the intestinal micro-organism. But, before these micro-organisms become a source of infection, other changes have taken place in the appendix such as partial or complete obstruction in the blood supply to the meso-appendix, or the appendix itself. The cause of this obstruction (or thrombus) has more than probably been caused by a non-specific inflammation in the tissues of the appendix with but little pain, and no fever, which has been overlooked by the attending physician, until the intestinal parasites have had time to get in their deadly work, such as infection, with pain, fever and necrosis.

If operative interference is still postponed and nature arrests, or holds in abeyance, the symptons, adhesions take place, which further embarrasses the circulation. These adhesions further embarrass the appendix by cutting off to a great extent its nutritive supply of blood, which, in turn, makes the appendix more vulnerable to the intestinal micro-organisms. We now see the patient not only in danger of further and more serious attacks, but danger from without, for if a patient ever needs the attention of a skilled operator it is in these cases of dense and profuse adhesions; and then he is not without great danger of losing his life. It can never be known in any given case what destructive changes are taking place in the appendix. If we could tell this, no one would be so foolish as to postpone operative interference until septic peritonitis took place.

Diet undoubtedly plays an important role as one of the exciting causes of appendicitis. How often are we called to see a case, after gormandizing, and find a patient suffering from an old-time case of cramp colic—(the kind that kills). The doctor of to-day says, it is appendicitis. One of my first cases was such an one. I have also seen a case clearly attributable to eating ice cream.

The modern water-closet must bear its quota of blame, in that it plays its part in producing chronic constipation by the position we assume when defecating, which is an abnormal one, and one never intended by nature to assume.

In the first stage of appendicitis we have an acute inflammation of the mucous membrane and sub-mucosa, with appendicular colic. This is catarrhal appendicitis, and the disease may be arrested in this stage. But don't make the mistake of considering this stage, one devoid of danger, for we may have constriction of the tube, by the swelling of the mucous membrane, with engorgement and infiltration. What will be the consequences if we have constriction of the lumen of the appendix? The mucous membrane continues to throw out its secretion and fill up the small lumen of the appendix. The circulation is cut off and in consequence gangrene and rupture are likely to occur within twenty-four to thirty-six hours. General peritonitis is inevitable, for nature has not had time to throw its arm of protection around the seat of inflammation and wall it off from the general peritoneal cavity by its plastic material. The second and third stages follow rapidly, which is a continuation of the first stage, with the addition of the loss of more tissue with the involvement of adjacent structures in the inflammatory process, with localized peritonitis. This condition soon leads to abscess formation with or without perforation of the appendix. This, in short, is the pathology of appendicitis.

Without going into the clinical history, etiology and bacteriological considerations of appendicitis, I will take up the diagnosis of appendicitis. Suddenness of attack, abdominal pain of a colicky nature, with tenderness at the site of the appendix, nausea and vomiting. In the beginning of an acute attack of appendicitis the pain is usually referred to the umbilicus or to the right iliac region; or it may be referred entirely to the stomach. The pain is of such a severe type that it is beyond the endurance of the ordinary patient, and if referred to the epigastrium, with nausea and vomiting, it may be diagnosed "bilious colic," unless the physician makes a careful examination. If he does, he will find that pressure *over* the *appendix* produces the pain in the epigastrium. I might say right here that there is tenderness upon pressure over the appendix in *all* cases of appendicitis, no matter where the pain is referred to.

The patient assumes the dorsal decubitus with or without flexion of the limbs. Inspection of the abdomen will reveal restricted movements of the right abdominal muscles during the respiratory act, and if the finger tips (of the physician) are allowed to glide over the right rectus muscle towards the right iliac fossae, the muscle will be found to become rigid and fixed. There will be found pronounced tenderness about McBurney's point. The rigidity of the abdominal muscles bear some proportion to the nearness of the appendix to the muscles and the severity of the attack, provided the patient is not under the influence of an opiate, or some other narcotic. The use of opium in acute appendicitis, before diagnosis is made, is to be condemned, as it veils the symptoms, lowers the pulse rate, and may so far mislead the surgeon as to cause serious if not fatal delay in operation. The tenderness may be over a considerable area of the right iliac region, but as a usual thing it is limited to an area about midway in the right iliac region, the size of the finger-tip. This in the early stage and not after an abscess was formed.

Fever with chills or rigors are not to be relied upon as diagnostic, as some of the gravest cases have no temperature, but on the other hand the temperature may be subnormal. The absence of chills or rigors is no evidence that pus does not exist, nor that peritonitis has not taken place. Neither can a slow or normal pulse be taken as a guide to postpone operation. Still a high temperature with rapid pulse are evidences of a severe case of appendicitis.

I believe the following rule might be accepted as a safe one as to the diagnosis of appendicitis. Every case of colicky pains coming on suddenly and located on the right side of the abdomen, with localized tenderness upon pressure at or near McBurney's point to be appendicitis. The prognosis of appendicitis, treated medicinally or expectantly, depends upon the severity of the attack; and those treated surgically by the promptness or delay of operation. A mild case of appendicitis treated medicinally may recover from the first attack, to be followed in the future by other attacks, until finally there is rupture with general peritonitis and death. Or the case may become chronic, with the results of an invalid, or at least a case that cannot walk any distance or do any work of fatiguing nature without pain and a sense of uneasiness in the lower bowel.

Will any case of appendicitis recover, permanently, without operative interference? (It may, but I doubt it.) I make it an invariable rule to tell all cases of appendicitis that seem to have recovered from an attack, if at any future time they should have a recurrence to call a surgeon at once and be guided by him as to operative interference. Do not wait until an abscess has formed, or a tumor can be made out by palpitation, to operate, as the patient has passed through the more dangerous phases of the disease before an abscess has formed, or at least before it can be made out, as the following case will illustrate.

I was called six miles in the country on July 28, 1902, to see Miss F——, who was suffering with an attack of colic. (So said the messenger.) I found her suffering with violent colicky pains in the right iliac region, with nausea and vomiting. Temperature 102 F., pulse 106. With the history that she was aroused from her sleep at 4 a. m., with violent pains, nausea and vomiting. I diagnosed appendicitis, and advised immediate operation, which was deferred by the family until the following day, to see if she would get well without an operation. I returned home and prepared for an operation. On the following day I returned, and carried Dr. J. S. Brown and young Mr. Junius Caldwell, a medical student of Johns Hopkins. I found Miss F. with temperature 102, pulse 100, with the statement she was feeling better, but with the assurance on my part that she was no better they consented for an operation. With an incision two inches long I cut down upon the caput coli but could not see or feel the appendix. I enlarged the wound to three or three and a half inches and walled off the intestines with sterilized gauze sponges from the head of the coecum. In attempting to lift up the head of the coecum I found it bound down firmly by adhesions. In attempting to break up the adhesions so I could find the appendix, which lay posteriorly to the cecum and imbedded firmly to the posterior walls of the cecum, I broke into a large abscess, which I continued to sponge out until the pus had ceased to well up. I next attempted to partially free the cecum from its adhesions, so that I could get at the appendix. In this I succeeded in so far that I located the appendix, firmly glued to the posterior walls of the cecum. I worked a piece of gauze between the cecum and the appendix, and by a sawing movement finally freed the appendix. In bending the appendix to bring it more into the field of operation, it broke short off like a pipe stem, being so gangrenous. I tied off the stump and walled off the general peritoneal cavity with gauze strips, which I brought out at lower angle of wound. This patient made a rapid and uninterrupted recovery. I could not see how it was possible to have so much destruction of tissue in about thirty-four hours' time, so, upon further investigation, I found that five days previous to the attack she had gone to an ice cream festival and eaten ad libitum of the cream with the result that she had a few cramping pains in her bowels, which she attributed to the ice cream, and continued to perform her duties for the next five days. I am now convinced she had appendicitis from the day of the church festival. This case will show the grave condition of the patient with the comparatively mild symptoms.

Treatment of appendicitis may be divided into expectant or medicinal, and operative. Now in the medical treatment of appendicitis we have a great many *cure-alls.* I will mention a few. Ichthyol externally and internally. Antiphlogistine, which is used externally. Salines and opium. Turpentine externally and internally. Hot poultices of any and all kinds. Ice-bag, which is undoubtedly the best of all the group. The medicinal or expectant treatment of appendicitis is justifiable only in those cases which cannot give their consent, or the consent of those who have the power cannot be obtained for operative treatment, or in those cases seen late in the attack by the surgeon; where the patient is already staggering under a burden that borders upon dissolution; where the patient is unable to bear the shock of an operation, or where they would succumb before the system could get the beneficial results of an operation. If opium is used at all, it should be used with great care and watchfulness, on account of masking the graver symptoms of the disease. Cathartics should be used only in the first stage on account of the danger from peristalsis, of causing perforation or infection with peritonitis. The ice-bag may be used over the appendix, where it gives comfort to the patient. Poultices are mentioned to be condemed.

The operative treatment of appendicitis —when to operate and when not to operate. These are questions to be answered by the abdominal surgeon, and not by the general practitioner. However, I shall attempt to answer this question from the practitioner's stand point. When, at the end of twenty-four hours, and after free action from saline cathartics, the symptoms have not materially improved, and without the use of opium, then operative interference should be instituted at once. If, however, the case has progressed for four or five days the surgeon may find it too late to operate for the first stage, and too soon to operate for the last stage. There are other cases with high temperature and other indications of a severe attack that should be operated upon in the first few hours of the attack. In those cases where general peritonitis has already taken place before the surgeon has been called, they should be operated upon, as a few of these cases will recover without operative treatment, and none of these cases will recover without operative treatment.

The only thing I shall say in regard to the surgical anatomy of the abdominal walls is to pay special attention to the approximation of the aponeurosis of the external oblique and internal oblique muscles. The failure to get union of these structures will inevitably lead to ventral hernia, no matter how well the other tissues may heal.

As this article is not to the abdominal surgeon, but the general practitioner, and as the abdominal surgeon is not always to be had, and the general practioner must attempt to do his work, I will briefly state my technique in operating. I claim nothing new or original.

The room where the operation is to be performed is not disturbed in any way—no hangings, pictures, curtains, ornaments, or anything are moved. No sweeping is allowed. I procure a sprinkling pot, if convenient, and thoroughly saturate the carpet, rugs, or mattings, with bi-chloride of mercury, 1 to 1000—have the floor coverings wet. The temperature of the room is about 85 to 90 deg. F. The patient's abdomen and pubes are first shaved, then scrubbed with green soap and brush thoroughly. Next use ether, and then alcohol. Then sat. sal. of permanganate potash. The staining from this is removed by sat. sal. oxalic acid. Then the abdomen is washed with bi-chloride sol. 1 to 1000. I then go over the abdomen the second time, using the same solutions. My hands are treated in the same manner, with the exception of the ether and alcohol—in their stead I use rubber gloves. The incision is varied according to the case. After opening the peritoneum, and lifting up the omentum out of the way, gauze spunges are used to keep the small intestines out of the field of operation, and also to wall off the general abdominal cavity, and prevent infection in case of pus. The next step is to locate the appendix. This is done by first locating the cecum, which may be readily recognized by its longitudinal muscular bands; then, by following these bands, the appendix may be found with but little trouble, unless imbedded in a mass of adhesions, or glued down tight to the walls of the cecum, in which case I know of nothing more difficult, or requiring more patience and skill, than to locate and remove the appendix. When located, there are no cut and dried methods as to its removal. It may be in such condition that it would be inadvisable to try and do more than tie and amputate in mass, and leave the stump in that condition. But, if possible, the meso-appendix should be tied first, cut, and resected from the appendix. The appendix may be cut through its peritoneal and muscular coats, and then turned back in a cuff, and the appendix tied and amputated, then buried with two or three rows of sutures, using the cuff as covering, or Dr. Darborn's method of amputating the appendix close to the cecum, and overting the stump into the cecum and closing with draw string suture, and then transplanting the meso-appendix over the depression left in the cecum.

There are some pus cases in which it is inadvisable to try and locate the appendix at all, the operation consisting of simply drainage, the following being a sample of such a case. On last August, 1902, I was asked to see a case with Dr. J. S. Brown, who had diagnosed appendicitis two weeks previous to my first visit. Mary J., colored, had had appendicular colic two weeks previous; high fever, rapid pulse, nausea and vomiting. Refused all surgical treatment. Upon my first visit I found patient with sub-normal temperature, pulse 124, rapid, weak and thready. Skin cold and bathed in perspiration. On inspecting the abdomen I at once saw the right side very much fuller than the left, in fact the right rectus muscle stood up high and taut. The right side from the liver to Poupart's ligament was tense and boggy. The patient was etherized, and I made an incision well over on the side near the crest of the ilium, about four inches long. There was immediately a gush of the foulest pus I ever smelt, almost black, it contained so much necrosed tissue, I think in amount about two quarts. I flushed out this immense pus cavity with ten gallons of warm water, then two gallons of bi-chloride solution, 1 to 4000. I could use this solution because the peritoneal cavity was walled off by dense adhesions, and the solution was used extra-peritoneal. After this I drained the cavity with long strips of sterilized gauze, carried up to the lower margin of the liver and dipping back toward the spine. This treatment was kept up for about five weeks, when the patient recovered. In looking back I see I made a mistake in not making a counter opening in the back, as it would have drained better, and the patient recovered quicker. To have attempted to locate the appendix here would more than likely have proved fatal.

The next case I present was one of the mild catarrhal types. I was called to see Miss R. S——, on March 22, 1903, for colic. I found her suffering considerable pain, referred to stomach. Very much nauseated, but not vomiting. Temperature 99½, pulse 88. Inspection of abdomen showed less movement upon respiration on the right side than upon the left. Gentle pressure upon the left side elicited no pain, but when my finger tips glided over the right rectus muscle I found decided rigidity of that muscle. Pressure over the appendix brought on colicky pains in the stomach, with tendency to vomit, and very sore to touch over appendix. I gave saline cathartics and stopped all food for 36 hours. Also gave saline enemas. At the end of 36 hours the patient was more comfortable, but no appetite. Allowed little animal broths or (bouillons), white of egg whipped up in water. I continued to watch patient for one week. At end of that time found tenderness to pressure increased. Advised operation, which was readily granted, as the patient said she was going to die unless that thing was removed from her side. I operated on March 30th. In this operation valuable assistance was rendered by my assistant, Dr. H. G. Heilig. I found the appendix congested, with congestion of external blood vessels. The appendix was removed and stump buried beneath peritoneal covering with three rows of sutures, silk being the suture material used in the peritoneal cavity, except to close up with, and then cat-gut and silk worm gut. This patient made an uneventful and uninterrupted recovery. She had not been well for two years, the slightest walking making her very tired and giving her pain in lower abdomen. She is now feeling better than for years. She was able to be out on the street in three weeks after operation.

In conclusion, appendicitis is purely from the beginning a surgical disease, and one of the greatest scourges of higher civilization, and should be removed in the first stage of the disease, if possible.

Surgery of the Prostate Gland.*

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In deciding upon an operation for the relief of the symptoms produced by hypertrophy of the prostate gland, it is well to bear in mind the pathological conditions accompanying these symptoms, in order that we may the more intelligently decide upon the most desirable operation to perform.

In the outset, I will say that I do not believe hypertrophy of the gland is due, as is generally supposed, to atheromata, if so, it seems to me, it would occur in more than from 25 to 35 per cent. of all males past middle life—the per cent. given by the best authorities—but believe it due entirely, or nearly so, to congestion and inflammation. I have frequently seen atheromata without hypertrophy, and vice versa. In all organs, acute and sub-acute inflammation gives rise to hyperplasia, and especially is this so in the prostate gland, as it is an organ abundantly supplied with blood vessels and highly cellular connective tissue. In the liver, kidney, spleen, or any of the glands of the body in which we have hypertrophy or interstitial hyperplasia, it is preceded by congestion or inflammation. Following this hyperplasia we have atrophy of the muscle cells of the gland. As a result of this continued hyperplasia we have hypertrophy. Anything, therefore, causing chronic congestion or inflammation of the prostate, such as chronic posterior urethritis, stricture, tuberculosis, peresis, atony of the detrusor muscles, or anything preventing the complete emptying of the bladder, keeps up this hyperplasia.

The gland may be symmetrically enlarged, or we may have enlargement of any one or two of its lobes.

When the bladder and prostate are normal the urethral orifice lies on a level with the trigone and floor of the bladder. As the prostate enlarges the tumor lifts the urethral orifice above the floor of the bladder, forming the so-called *bar at the neck of the bladder*. The enlargement of the third lobe especially acts in this way. We can easily see that undue strain must be brought to bear in order to force the urine over the prostatic bar and empty the bladder completely.

In the aged the trigone of the bladder becomes more and more horizontal to form the bas fond, as the French call it, and there may be some bas fond without prostatic hypertrophy, yet without urethral obstruction, such a condition has no clinical significance; with hypertrophy the bas fond is never dry, and we have partial retention of urine. The constant pressure of the residual urine, the action of the bacteria upon the urea—setting free carbonate of ammonia, which irritates the bladder and prostate—produce a chronic congestion and thus keeps up interstitial hyproplasia. The bladder walls become thickened in some places, thinned in others, the mucous membrane is thrown into irregular ridges by isolated bundles of hypertrophied muscle and between these ridges pouches, or diverticula, are formed. Finally the walls of the bladder give way to the increased tension and the viscus becomes greatly dilated. The ureters begin to dilate, first at their vessicle orrifices, then higher and higher until the renal pelves give way before the ever increasing pressure. Desquamation of the epithelium from the bladder, ureters and kidneys exposes the lymph and blood channels and allows the absorption of toxic substances, and when the bladder is infected the inflammation rapidly extends up the ureters into the kidneys and produces a pyelonephritis. In such a condition the whole genito-urinary tract is ripe for infection, and the normal excretion of toxines is interfered with. No prostatic can have cystitis for any length of time without extension of the inflammation up the ureters into the kidneys.

The symptoms of such a condition we are all familiar with, namely, frequency of urination, more frequent by night; difficulty in urinating, also most marked at night; difficulty in starting the stream, the greater the effort the less the result; want of force and body in the stream; pain in the back over the pubes, down the thighs, in the rectum, and often in the penis just back of the meatus; failure to experience ease and relief after urination, etc. Occasionally the enlargement of the gland so distorts the urethral orifice that the sphincters cannot close and the urine is allowed to flow from the bladder as soon as it enters. This is true incontinence.

When a patient over fifty seeks relief for the above symptoms, suspicion falls at once upon the prostate. It is rare that stricture causes trouble for the first time so late in life. Such symptoms, when produced by stricture, are more marked by day. The opposite is the case when due to prostatic hypertrophy.

The diagnosis can usually be made by digital exploration through the rectum. In hypertrophy the finger will encounter a rounded, dense mass, smooth and symmetrical, or variously distorted and nodulated. The median fissure may be unusually perceptible or may be obliterated entirely. Median hypertrophy alone may exist when rectal examination reveals no positive evidence of enlargement. In such cases the residual urine and the use of the cystoscope will enable you to make a diagnosis. The amount of residual urine measures in a general way the depth of the bas fond, though a strong bladder empties a fairly deep bas fond, but as it becomes atonied from over strain it only spills off the upper layers of the fluid. The depth of the bas fond can also be ascertained fairly well by the use of the Thompson stone searcher. Another important diagnostic point is the increased urethral length in hypertrophy.

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The prognosis is bad after the bladder once becomes chronically inflamed, and we cannot effect a cure without in some way removing the obstruction. After the kidneys become involved the patient gradually goes down and dies of urinary toxemia, without surgical interference.

For want of time I shall speak only of the operative treatment, both paleative and for radical cure. There is only one condition calling for operative measures, and that is where paleative treatment has failed.

Of the paleative operative measures only two are allowable—supra pubic aspiration and cystotomy, both supra-pubic and perineal—and these only in emergency and incurable cases. Supra-pubic aspirations is of great value in acute retention. Some have advocated the insertion of a catheter through such an opening for permanent drainage, but it seems to me that suprapubic cystotomy is the preferable, as it allows free inspection of the bladder, the removal of stone or growth, gives better drainage, and is attended with but little more danger. This plan of draining the bladder was advocated some years ago by Dr. Hunter McGuire and lately practiced by my friend, Dr. H. M. Wilder, of Charlotte, N. C., with good results. A simple cystotomy, either supra-pubic or perineal, does not interfere with the prostatic obstruction, but carries the urine around it, and is performed to establish permanent drainage in incurable cases and for the cure of chronic cystitis. Perineal section is sometimes a source of unbearable irritation at the neck of the bladder. In every case of prostatic obstruction the elevated orifice and enlarged lobes are what the surgeon has to deal with, and the removal of these constitute a cure. The ideal time for any operation for a radical cure is as soon as the surgeon is convinced that he cannot control the disease by paleative measures. An operation at such a time will give the lowest mortality and the highest proportion of complete cures. During the last twelve months I have done six prostatectomies and three Bottini operations without a single death. There was a virulent cystitis in one of my prostatectomies and he had a urinary fistula as a result for about six months. This same patient suffers slightly with incontinence. With this exception the results were everything that could be hoped for. In the treatment I shall speak only of two operations for a radical cure—the Bottini with its modifications and prostatectomy, both supra-pubic and perineal. The Bottini consists in burning a groove in the prostratic obstruction with a galvano-cautery introduced through the urethra in such a manner that the incision will not heal and thus form, as it were, a groove or channel for the drainage of the bas fond of the bladder and so interfere with the circulation in the gland as to bring about atrophy. Burning through the gland sears the lymphatic and blood vessels, and as the scar tissue contracts the tissue retracts and enlarges the groove. This operation can usually be done under cocain or eucain anæsthesia, with but little discomfort to the patient. It is against all rules of surgery to make a hole in the wall of an infected cavity without supplying adequate drainage. The cautery so sears the blood and lymphatic vessels as to prevent a great amount of absorption, and infection may be prevented by continuous irrigation with a normal salt solution through a return-flow rubber catheter. The temperature of the water can be regulated by the use of gas. The most frequent and dangerous accidents in the operation are cutting into the membranous uretha, or through the gland into the peri-rectal tissue or rectum, causing urinary infiltration. Such accidents should be met at once by perineal section.

Dr. Hugh H. Young, of Baltimore, devised the instrument I show you, which eliminates this danger to a very great extent. It has four blades of different lengths so arranged that the blades may be changed and the length used necessary to overcome the obstruction. The size of the gland (and the location of the incisions to be made) having been estimated by rectal examination and cystoscopy, the bladder and urethra are irrigated with a boracic acid solution, a half ounce of a 4 per cent. solution of cocain is put into the bladder and allowed to remain for a minute or two, then withdrawn and the bladder washed out in order to get rid of all the cocain, the bladder is again filled comfortably full with the boracic acid solution, the instrument is inserted into the bladder and pulled up gently against the symphesis, then rotated posteriorly over the gland, connections made and the current turned on. The alternating current is used for this purpose. From one to four incisions, as previously determined, are made at the rate of one meter per minute going in and two coming out, with the blade heated to a bright strawberry red.

The index finger of the operator should be inserted into the rectum as another precaution against burning through the gland into the rectum and membranous uretha.

Dr. Chetwood, of New York City, proposes prostatotomy or cauterization through a perineal opening, and has devised a cautery somewhat similar to the Bottini instrument for this purpose. It seems to me that this opening is absolutely superfluous, and the perineal opening should never be made in this operation save for the relief of the complications I have mentioned. If the patient is able to stand perineal cystotomy, he is usually able to stand a prostatectomy and thus get rid of the obstruction entirely. The Bottini operation is preferably only when the patient is in such a precarious condition as to make a prostatectomy a very dangerous proceedure.

Often a second or even a third operation with a Bottini instrument is necessary to relieve the symptoms. Only pedunculated prostatic growths should be removed thro' a supra-pubic opening. When the prostate is so enlarged that a cure is not affected by removing the pedunculated growth, it is better to do a perineal prostatectomy and remove the entire gland with the pedunculated lobe. The gland lies below the bladder wall, and to remove it by the suprapubic route it is necessary to destroy a part of the base of the bladder and the internal sphincter. If the gland protrudes far into the bladder there is also great danger of injuring the ureters. The drainage is very poor, seminal vesiculitis is a common occurrence following the operation, and sepsis is far more likely to occur.

Perineal prostotectomy is an operation founded upon sound principles. The base of the bladder and internal sphicter are not injured; free drainage is secured, and the capsule of the gland with its ligamentous supports are left in situ. The chief difficulty in this operation is in reaching the prostate. Counter pressure, in some way, must be brought to bear in order to bring the gland down. This is done through the rectum, pressure through a counter opening above the pubes, and by instruments inserted into the bladder through the perineal opening.

Dr. H. H. Young, of Baltimore, has just devised an instrument with two blades which are opened after insertion into the bladder to pull the gland into the perineal opening, which I think is better than pressure thro' the rectum, and certainly much better than through a supra-pubic incision.

The ideal operation would be to leave the prostatic urethra and ejaculatory ducts intact, but from the gland I have shown you, you will see that the ducts from the seminal vessicles pass directly through the gland and empty into the prostatic urethra near its junction with the membranous urethra, thus rendering such an operation impracticable if not impossible. The entire prostatic urethra was removed with the gland I show you, and the anterior portion of the membranous urethra sutured to the bladder opening with a cat-gut ligature. There was no leakage of urine around the tube—thanks to the preserved vessicle sphincter—the wound healed by first inteution, save the space occupied by the tube, the entire wound healed in eighteen days and the urine voided through the natural channel. It has been my practice to leave the anterior portion of the prostatic urethra in situ, cut the ejaculatory ducts just inside the prostatic capsule, remove the entire gland save that anterior to the urethra. In this operation the ejaculatory ducts are interfered with as little as is possible in any operation, and only the posterior portion of the prostatic urethra is removed, leaving a part of the urethra from which new epithecial cells are developed to line the newly formed urethra.

Acute Traumatic Tetanus.*

By P. A. Nicholson, M. D., Washington, N. C.

Traumatic Tetanus of the acute variety is a disease with such a very high rate of mortality that even though it is a comparatively rare malady, yet anything which tends to either prevention or cure must be of extreme interest to any practitioner who has had one or many of such cases, and has seen his patient die in the terrible agony that this disease most usually entails.

The Bacteriologist tell us that the bacilli of tetanus are more widely and diversely distributed than a majority of us would imagine, judging from the frequency of wounds and their possible contamination, together with the comparative infrequency of the disease. We are told that the bacillus of tetanus is a slender rod with rounded ends, but slightly motile, and that it develops best at the normal temperature of the body. And that which is of great advantage to the human race, it is distinctly anaerobic; the presence of oxygen inhibits its growth and quickly destroys its verulence. It is also non-pyogenic. It is to be found most usually in the upper layers of the earth and especially in the vicinity of horse stables. The bacilli having been found in the alimentary canal of the horse, and consequently in their intestinal excreta; thus it is that we find cases of tetanus which were not innoculated at the time of receipt of injury, but were infected afterwards from the exposure of the wounds to dirt and soil, and this is especially true when the wound is in foot or leg and the recipient, a bare-foot boy, playing around the garden or stables, which would seem to account for the fact that tetanus occurs more frequently when wound is of extremities.

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*Read before the North Carolina Medical Society, at Hot Springs, N. C., June 3rd, 1903.

The period of incubation of acute traumatic tetanus from five to fourteen days; personally I have found to be six to eight days, the shorter the period of incubation the more fatal the disease, and vice versa. The authorities tell us that in those cases which develop after the fourteenth day the percentage of recoveries exceed the mortality. I desire to report four cases coming under my observation during the past few years.

Case 1. 1896. C. M., colored, male, aged 13, stepped on a nail sticking through a plank, penetrating the tissue under the third toe about one-eight of an inch. He paid no attention to the wound beyond saturating cloth in turpentine and binding to injured member. At the end of the third day the wound became inflamed and painful. He then changed to poultice of fat meat. I was called on the eighth day after receipt of injury, patient had then been suffering from tetanus well defined for twenty-four hours. Treatment: Bromide and chloral, together with morphia hypodermically. Gave chloroform to anathesia several times daily. Amputated toe well above wound soon after seeing the patient, hoping to cut off further absorption of poisonous toxines. Results: The patient died in agony eleven days after receipt of injury.

Case 2. 1898. J. S., white, male, aged 7. Stuck a nail in foot about one-quarter of an inch. Mother kept dirty cloth on foot and allowed child to play around the yard. Was called on the seventh day after the receipt of injury. Tetanus easily diagnosed. Treatment: Practically the same as case No. 1, except amputation; though did open wound and inject pure carbolic acid. Death followed on fourth day after development of disease.

Case 3. Male negro, aged 27. Stuck pitchfork in the bottom of foot and developed tetanus. On the seventh day opisthotonos was well marked at the time of convulsive seizures, and also the peculiar "risus sardonicus." Treatment: Large doses of morphia hypo and choloroform inhalation. Death on the fifth day after the development of the disease.

Case 4. 1899. Negro, male, aged 30. I was sent for at night to prescribe for a peculiar stiffness and rigity of the abdominal muscles. No pain, no stiffness, nor anything to call attention to any other part of the body. He gave no history of blow or injury. I failed to make a diagnosis on my first visit. Next morning had some stiffness of neck and muscles of jaw. After careful inquiry patient said he had stuck a nail in his foot the previous week while working in a horse stable, but had forgotten the fact as there had been no pain, inflammation, or any pus, the wound having entirely healed, and but for slight scar could not have been located. Symptoms of tetanus steadily progressed, and notwithstanding the immense doses of bromide, chloral and morphia, convulsions kept up and patient died on the fifth day.

It would seem that since the mortality rate of acute traumatic tetanus is so very high, notwithstanding the methods most usually employed, that it behooves the practitioner to not only give more attention to the prevention of tetanus, but to also impress upon the minds of the laiety, the importance of such, especially in punctured wounds of extremities, be they ever so slight. As to the anti-toxine treatment of tetanus I did not include that in my previous remarks, as I have had no personal experience in its use, though I would not hesitate to employ it in any case that I might hereafter have. Though judging from the general literature on the subject, culled from the medical journals, I do not think the use of the anti-toxine has reached expectations, in the acute variety of the disease. Since the tetanus bacillus is distinctly annaerobic, and therefore cannot develop in the presence of air and light. I have practiced the following methods as a preventative treatment:

In all punctured wounds of the extremities lay wound open to the bottom of the puncture with scalpel, wash out thoroughly with carbolic acid, bi-chloride of mercury, or cauterize with nitrate of silver, and pack well with gauze, dressing each day; pouring in wound paroxide of hydrogen, douching and repacking, keeping the wound open and allowing it to heal from bottom by granulation, thereby preventing any cavity being formed at bottom of wound, where the spores of the bacilli could grow and develop without the presence of air. The bacilli being non-pyogenic, the absence of pus and inflammatory products being no criterion by which we may judge the wound to be a non-infected one, therefore we should open any puncture wound of extremity and pursue the prescribed treatment at any time prior to the seventh day after injury.

A Plea for the Better Organization of the Medical Profession.*

By J. N. McCormack, M. D., Bowling Green, Ky.

Dr. McCormack: Mr. President and Gentlemen:—I am exceedingly pleased and gratified to be the bearer of words of cordial greeting and encouragement to the members of the medical profession of this great State from the American Medical Association, whose official representative I have the honor to be. I think it may be proper for me to say at the very outset of my remarks that I am here in a purely advisory capacity, to give you the benefit of such experience as has come to me in work of this character in my own and other States, to assist you, if I can, in this work, but, in any event, to hinder and hamper you in nothing that I may say. I may also be permitted to say that I am an old-fashioned man, a member of an old-fashioned political party which believes that every State ought to have the right to manage its own affairs in its own way, and that applies as much in medical matters as in other concerns of government.

The question of medical organization is such a many-sided one, there are so many stand-points from which it may be viewed, that I am always in doubt as to what facts we may best present to any particular assembly of medical men. Our English cousins have always been in advance of us in this work. They have just concluded the reorganization of the parent Society and of the branch organizations throughout the entire British dominions. They have been greatly aided in this by the nature of their population and freedom from difficulties to be met at every hand over a wide scope of country like ours. They have been assisted, no doubt, partly by the centralized form of their government, but, whatever the reasons may be, the influence of the Parent Society has been widely felt, whether the colony was located upon the equator or amid the ices of the Artic ocean. Every man desiring to physic his majesty's subjects anywhere was required to pass the uniform standard of qualifications.

Much has been done in this country in recent years in education, in legislation and in organization. A bare statement of the facts must convince any man who will read them that our methods in the past have really only touched the surface of things, and that the rank and file of the medical profession has heard very little of what we were doing, but is growing less. As the President said to you this morning, it is estimated that there are somewhere in the neighborhood of 120,000 medical men in this country and its dependencies. Of that number only about 30,000 have ever been members of any sort of medical organization at any time in their lives, either County, District, State or National. Now think of that fact a moment, you who have found it difficult to keep abreast of the times and live in perfect ethical peace with your neighbors. These men left their colleges probably with the same high aspirations and ambitions that actuated you and myself at the outset of our careers, and because of no fault of their own, because they were not responsible—they have drifted down into that condition of indifference. These facts were first forcibly brought to my attention as a State officer in Kentucky, largely with the duty of enforcing the neglected health and medical laws of that State; positions which I have held continuously for about a quarter of a century.

Starting out in this work with the enthusiasm of youth and with the exalted idea of the profession and dignity of my choice, I was met at the very threshold of this work by statements from the most representative men, occupying judicial positions, in the State, and members of General Assemblies, that if my ideas were like my family physician's there would be very little trouble about securing and enforcing any laws that you want to, but they are not. He is a most lovable and worthy man, but the majority of them are selfish, and look with suspicion upon not only the laws that are in force but upon what you are attempting to secure. Probably the next legislator would bring a new member on that question who would discover another excellent family physician in that county. This family physician was a most potent factor in securing the legislation for destroying the influence of his medical neighbor very often by a misrepresentation of him. His influence was the only very potent one which the profession had upon the member of that county for that time.

Now, when I began to enforce our medical laws, and the profession of a county had a quack doctor who infested their region or section, there would soon develop an influence in the profession from doctors who hated their rival physicians more than they did the quack himself, a position which would so hamper and break down the prosecution that the knave on trial went unpunished, and these doctors alleged as an excuse for it, not that this was a good man by any means, but that these men who had instituted proceedings were too hard! So in small-pox management, and I had a great deal of the same thing with yellow fever, &c. In the last four or five years, within that time, under my observation, there has come about 15,000 cases of small-pox, and I have had experience with it in almost every county in the State of Kentucky. As soon as the epidemic began, the health officers and the Board of Health which happened to be in charge at the time instituted proceedings which were recognized everywhere as entirely proper for the protection of the public, it began to be whispered around everywhere in the ears of the public that it was elephant itch, Cuban itch, cedar itch, and chicken pox, or anything else except what had been diagnosed by the medical men—by the physicians. And this impression always comes from the profession, in my experience—coming from some of the lower grade men in the profession—so that these men had either made a false diagnosis or were unable to diagnose. Now I hope you have not had an experience of that kind in North Carolina, but it was wide spread in Kentucky, and I have found it, I will say, in most of the other States I have visited. So, in an experience with mal-practice in which I am very often summoned as a witness, I would like to always say for the defense, I have never as yet seen a case in which there was not stalking behind the plaintiff and his attorney some envious, jealous doctor, who was nearly always openly or secretly giving in every way possible inspiration and animus to the attack upon the person and good name of his neighbor. Now I confess that I thought for quite awhile that probably there was more of that in Kentucky than in any other State, but as my opportunity for observation extends I found that these conditions were nearly universal. I found it in Ohio and Michigan as well as in Kentucky.

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* Remarks made in advocating the adoption of the new Constitution and By-laws by the North Carolina State Medical Society, at its Fiftieth annual meeting, at Hot Springs, N. C., June 2d, 1903.

I was in ——, and in talking about small pox was told that they had some down there the summer before, or at least some of the doctors said it was small-pox; but most of the doctors down there said it was cedar itch, and that some of the doctors just banded themselves together to get some money from the county for nothing. Now, finding that these conditions were so universal, and under instructions of the State Board of Health, and being on this committee of organization, I began a systematic investigation to see if I could ascertain the cause of conditions which were so universal, and I have been able to my satisfaction to trace nearly all of the ills from which the profession is suffering in this country to faults within our own ranks. I found that in our low grade medical colleges, two or three or four or five in a city which barely had the facilities to support one, that the medical student during the very formative period of his career was often surrounded by an atmosphere of exaggeration and falsehood, because (there is no other word to express it) of the rival teachers which were no better than or worse than the one they were attending.

Where Dr. Jones and Dr. Smith were the only two physicians of a section—men who needed each other's help in times of professional emergency, which must come to all of us, because I am a country doctor—I have always practiced in the country district—what I am speaking to you of is out of the depth of my personal experience and observation. These two doctors I found everywhere I went nearly, and the conditions were not very different in the town and country. Dr. Jones was busy a large part of his time, or a sufficient amount of time, if he had put it in careful study, would have made him one of the foremost men of his time, in systematic attempts to undermine the personal and professional character of his neighbor, Dr. Smith—that he was injecting the poison to his patrons and his friends constantly. He exaggerated his faults, exaggerated his failures as a physician; and that Dr. Smith, hearing of these things, or very frequently without waiting to hear anything, was engaged in doing the same favor for his neighbor, Dr. Jones. An inquiry from any unprejudiced observer would satisfy him that both personally, aside from this fault, were most estimable and worthy men, fully entitled to the respect and confidence of each other. Lincoln said that you could fool some of the people all the time but you couldn't fool all the people all the time. People finally get together and compare notes as to what these doctors have said of each other, and naturally conclude that they know much more of each other than anybody else could know of them. They accept both at the low estimate that each has placed upon the other. The faults of these men and the fault of doctors is that they ought to have a Society of their own. They are not only deprived of this pleasure, but of the friendship of which both are equally worthy.

It destroys the opportunity for surgery over a large part of this country. Half of the men in the smaller towns and country districts cannot do the necessary life-saving surgery which ought to come into their hands, because they cannot have the necessary assistance. Now in the same way it interferes with business. Now I am sure that a third of the doctors in my State (I wont speak of North Carolina), are afraid to present their bills at the end of the year at all for their hard-earned services for fear they will lose some of their patrons in the neighborhood. Patrons take advantage of that, and for two or three reasons. The average man in this country likes a fight, and he don't care much whether it is a doctor fight or a dog fight. He takes advantage of it, and goes from doctor to doctor as opportunity offers. Now I am not going to enlarge upon this picture, because it is a painful one to me, and I only present it to you from a sense of duty. If it is a true picture it is not my fault. I only paint what I see in the hope that some one, coming after me, under different auspices, may be able to paint what I would like to see, and I sincerely trust that these conditions do not exist in North Carolina. I hope they do not. But these evils are so great that no words of mine can properly present them to you. I would like to ask if the picture is an exaggerated one in North Carolina. I would like to know for my own satisfaction whether this is true or not, because I find it is not an exaggerated picture elsewhere. Now these are grave charges—it is in effect an indictment of the whole profession that charges such as these can be laid at the doors of a profession like ours, whose individual members will compare favorably with any avocation in the world —because I like to turn to the other side of the picture. I am satisfied that the medical men of my State do more actual christian charity every day, every week, and every month, than all the preachers, and churches, and Sunday schools, and Epworth Leagues, and Christian Endeavors, and all like things put together, because we are doing, you are doing, (Applause) night and day, what they are preaching and singing about. (Applause). And I am glad that they do. I don't want to undervalue what they are doing, because they are accomplishing good, but I like to present the contrast. And you will naturally ask why it is that such a profession as this, whose individual members are as worthy as you know them to be, and as I know them to be—why it is that this curse of envy and jealousy hangs over it like a pall, blighting and cursing and cursing and blighting everything with which it comes in contact, hampering the progress of the profession everywhere. It stands as the first obstacle in your way in securing legislation, as I have tried to make plain to you in a very few words. It stands in the way of progress of the profession in surgery, and along all those lines. It stands as the chief obstacle in the way of our business success.

Now, you will naturally ask how I can reconcile these pictures. Doctors sometimes say to me, you first paint the doctors having horns and hoofs and then turn right around and make the same men the best men in the world. And yet both pictures are true. It is a curse that hangs over all avocations whose members lead segregated lives, unless these evils have been eradicated by systematic organization. You know how the two bankers of a town used to be in former years, and how they are now. They didn't speak, and their families didn't associate. You know how it was before the days of ministerial associations, because ministers are human as we are, and, without running through the whole of those avocations, on the other hand you take our legal brethren. You see lawyers, after a term of court. after the fiercest conflicts, often in my country resulting in personal encounters, go arm in arm as soon as court is over, just as good friends as they ever were before. If the two doctors in nearly every town in my country were to say half the things that the lawyers say to each other every term of the court, think of the result! Now is that true of evils of this State? Have you these evils here? We have them. They have cursed us as I tell you; they hamper us as I have told you, and without enlarging upon this picture either way, because I want to call your attention to the fact, that, so far as my investigation has enabled me to determine, this trouble is a local one, as General Hancock tried to say about the tariff. He wanted to make the tariff a local issue. This entire trouble in our profession is a local trouble. The whole fight is between doctors who are in each other's way. In the State Society in Kentucky, if it is suggested to elect a man from Lexington President of the State Society, there would be some one to say: "Now, look here, that is one of my best friends, and I just like him best in the world, but do not press the election on Lexington this time. Take the President from Louisville, spare us this time." And you perhaps take the doctor from Paducah, and at once a like clamor arises, and so on to the end of the chapter, and from the smiles on your faces I see that you have heard of such things as that in North Carolina. Take another example. Over and over again I have seen a country doctor decide he would move to town and be a town doctor, and move into the county seat. And yet just as soon as he moved in there and got in their way, either because of the short range of vision to which he subjected himself, or some other reason, they would detect defects in his character that they had never suspected before in their lives. The trouble is chiefly between doctors who are in competition with each other, and the reason that we have not been able to reach these troubles in the past is because our system of organization did not bring these men into contact with each other. The average doctor in this country, city or town—because I have been to Cleveland, Milwaukee, Detroit, and Dallas, Texas, and a good many other cities, to settle local differences there—I have found the trouble is that they were in each other's way. They didn't know each other; they had drifted apart. And this whole scheme of organization, as I say, is an effort to bring these doctors who are in competition into that kind of social and professional relationship with each other that they will know each other. They will find out from actual contact that the majority of these men are not bad men. You know, doctors, how isolated their lives are. I know hundreds of doctors in my State, because I have licensed them all, and I know all of them. I have known many of them that lived there, and their horizon got narrower and narrower until they would run about in a little world about the size of a dinner plate, believing what they knew was all that was worth knowing. It is said that the inhabitants of islands, all insular people, are suspicious of each other, suspicious of the world; and the doctor who lives in a little world of his own becomes so of his neighbor. I have heard the story of the old Scotchman who said that there were two good men left in Scotland, that was himself and Jamie, and he was beginning to have serious doubts about Jamie. Now I have seen that with medical men so often, worthy men; because I fail of my purpose if I do not make the impression on you that these individuals are not responsible for this condition of things. I take it up to two years ago, half the doctors in my State had not seen a medical journal, except the Medical Brief and the Clinic, which was sent to them free. (Laughter). I believe that to be true. Half the doctors in my State—you gentlemen who are doing a large consultation practice, as I did many years myself, will know whether this is true or not. I am satisfied that a third of the doctors in my State had no instruments in their office except a pocket case with three or four gum catheters, some of them fifteen or twenty years old. Over and over again with consultation with men I have been called in, and they had jabbed that gum catheter that been infected for years, and drew some blood, but didn't get any water, and later I would be called in.

I have rarely seen one of these men get well. In addition to removing these ills attaching to envy and jealousy, which are inseparable, the purpose of the Association is not only to attempt to organize a county society in the twenty-nine hundred counties in the United States—and I am glad to say to you that nearly a third have been brought together and organized in the last two years—but have attempted to do very much more than that. Its object is to make this County Society, in a very humble way at first it is true, converted into a post graduate course of instruction which will enable the organized profession to reach out to all the members of these remote country districts who are entirely lost to the profession. Now I take it that there are men all over my State that will never be brought in. You know the Gospel of Christ has been preached for nineteen hundred years, and men are being lost continually. The plan isn't complete, but human nature is very imperfect and it will not reach everybody, but what I want to urge upon the physicians of North Carolina in their organized capacity is that it is your duty as far as possible to bring these influences home, and within the reach of every physician in your State who can be reached. There is no source of information that is open to the surgeons of Berlin, Vienna or London, that is not equally open to you medical men of this State. I think in this pure atmosphere that as good surgery can be done in this country as can be done any place else in the world. I believe it is best to bring relief of this kind—to bring the best of it home to all of your people, and I know that in my State in the last quarter of a century, daily, men have been losing their lives because of the incompetency of medical men who, under a proper system of organization and instruction, would have been entirely competent.

The average doctor in this country wants information, and it can be brought to him, and it is your duty and mine, in so far as we can, to do it. The only excuse for the medical profession is because there are sick to be treated and relieved. That is what the medical profession is for, and, if that is true, it ought to be kept, if it can be, like a well-drilled and well-equipped army, even to the lowest subaltern, so far as the organization can do it. Every effort ought to be made to keep every one of these men with their men weapons for relief as bright and their minds as well trained as can be. It may take you several years before you will organize every county in this State. They have every one organized in Alabama. We have organized most of them in Kentucky, and they have in Ohio and in a great many other States. It is in no case a self-acting plan. If you simply adopt it upon paper and stop there, you had as well take no action upon the matter, but you must send your Counsellor as the plan contemplates. Elect a President to co-operate. The President in my State organized nineteen counties, and declined to have his expenses paid by the Society. They will find it so interesting that it will have many fascinations for them, and I probably can occupy the few minutes longer that I intended to speak no better than by telling you just how we carried out this plan of organization in my State. The plan was adopted without a dissenting voice. Our leaders in the profession caught the inspiration from that moment. The State was divided up into districts, and the best Counsellors that we could select were appointed in each, and I had a card index system in my office and I furnished a list of each of the physicians in their respective districts to each of them. The physicians were notified that the meeting would be called at the county court house. We never met at a physician's office for obvious reasons, for if a meeting had been called at a physician's office there were some physicians of the town who would have felt embarrassed to go there, so the meeting was called at the county court room, which was everybody's room, and they all felt free to go there, and the hour was named and the physicians were notified the object of the meeting, that it was to form such an organization of the profession of that county, if it met with approval, as would attempt to improve both their scientific and material interests; and, as a rule, I always called, when I was doing this work, myself on each of the physicians in the town personally urging upon him to be present at the meeting. We had a frank discussion of the evils growing out of the lack of organization, very much after the plan I am talking to you here this evening. I found that those counsellors have succeeded best who have frankly discussed these evils and have said to the profession you know whether it is true or not.

They can be educated, if they are men at all, into that respect and tolerance of a brother member of a great profession like ours so that they can meet them in social conference, and at least abstain from that kind of misrepresentation which has brought us into such reproach with the public, because I believe it can be easily demonstrated to any medical man that no physician has ever profitted by any of these evils. I do not believe that the practice of black arts has ever profited a physician even to the extent of one dollar permanently. If we could have a profession organized as I have indicated in my remarks, think of the picture they would present to the public. Now the American Medical Association simply presents to you the outline—the working of the plan you must accomplish yourselves. It remains entirely with the States and the counties and their individual members whether or not it can be put in force. It has been done, as I told you last night. I told you what occurred in my own State. Dr. Reynolds, one of my personal friends, said that while he could not consent to the scheme, he would not oppose it. He said that he would not oppose anything that I proposed because he was my personal friend. The next year he rose to a question of personal privilege and said: "I was entirely conscientious in my opposition to this scheme last year when we had a membership of less than 400. I see on the rolls about 1,600 members now. I see more men in actual attendance than were even on the rolls of the State Society before. The good feeling has very much more increased than the numbers. I want to confess my mistake before the Society of last year," as I told you last night.

I had a similar observation in Michigan, and it has been an experience occurring in nearly every State that I have visited. They have observed these evils so long that they have grown tolerant of them. It has so hampered them in every respect that the average doctor in the country districts of Kentucky, and that is true of the towns and cities, except with a few fortunate men of the higher classes.

I take it that you have a very independent profession in North Carolina, but that was not true there except in those organized counties. They live in as much harmony as my brethren of the legal profession. If the Counsellor has been a part of this irritation it would be very difficult for him to bring the county together. The Counsellor can organize every county except his own, and he has to swap and get some other Counsellor to come there. They say, "I can't do anything in my county. I have organized all the balance of my district. Would you please come down here and see if you can do anything with my family."

Now it seems to me that the time has come in the history of the medical profession when we can decide calmly and dispassionately whether or not we have endured these evils long enough, and whether or not we shall not improve by the observation in what is going on all around us in all the avocations. We owe it especially to the public. I would like to advert to that question because, as I said, I like to discuss that phase of it before laymen. I can conceive of no greater hardship than the question coming to citizens of this country who do their part supporting the medical profession and yet the life of their child or their own lives are at stake from the ignorance and incompetence of the so-called family physician. I believe that is occurring all over our country much more than most of you are willing to admit. He has contributed—he has paid liberally for the support of our profession. We will take an opportunity of saying Dr. Jones again, who has 200 families upon whom he would naturally rely for support, but on account of his faulty business methods and all the causes combined, he failed to collect from one half of his patrons; the other half who are amply able to compensate him for his services have not done so. He has not been able to take a post-graduate course in the whole of his professional life. He is very much where his graduation left him, but that is not the fault of his patron who has done his part towards supporting the profession. Now he has done his part toward the support of the profession and is entitled to one, and he sends for what he believes to be a doctor who is abreast of the times, and does not get one. His condition is not greatly improved because of the incompetency of that man. The doctor is not wholly to blame himself, but the organized profession of the United States is responsible for just so much of this as could have been prevented by a proper organization and by properly keeping before that man the incentive and the opportunity for keeping himself abreast of the times.

The history of McDowell, and of Sims, and of Boszeman, and of Thomas, show the capabilities that are inherent in the doctor of this Southland of ours. (Applause). I verily believe that there are no men like them on earth. (Applause). McDowell's great work was successfully carried out in a little hamlet in my State—(I was in the building)—was carried out in a little town of less than 200 inhabitants, and his work was not the result of accident. That is what I like to impress upon these young men—these buds of promise to me. I started a poor country boy myself, and have gone through all this experience that I am relating to you. I have been a part of this. I am an Irishman, and with the faults inherent in my race. I have not always been blameless, and I want to say that frankly. McDowell worked hard. When he was a lad 14 years old he had done a vast amount of this kind of work, and had done experiments before he attempted this on this woman. The first hip joint amputation that was ever done in this country was done by Dr. Boszeman in 1804. He did the first hip joint amputation that was done in the western hemisphere. The opportunity for everlasting renown was never greater for young men than it is to-day. The great questions of bone surgery, surgery of the blood vessels, surgery of the lungs, surgery of the nerves. Opportunities for young men that had just as well be settled by any two or three kindred young men in some little town in North Carolina as in any place in the world. I never stay in a small town that I don't wonder where the young doctors are. They can all do the experimental work that they could desire, and what I would urge upon the young men within the sound of my voice, instead of wasting your time with politics and neighborhood gossip, or with the curse of light literature that floods this land, to lay these matters aside and become students of medicine. I can recollect my experience as a young man. I spent two years after I graduated in a hospital. My father had sixteen children. He was in a comfortable condition for a man with one child, but not very affluent for a man with sixteen children. There was no doctor within ten miles, and the only revenge I got out of him for not supplying me a sufficient amount of funds to take a trip to Europe was I that operated on every cat and dog—there was no operation in surgery that I did not do on the feline and canine members of the family. I went over the whole field of surgery with those cats and dogs, and I laid the foundation for what little success I have had in after life. Realizing the imperfections of my early education in medicine, I saved as I could and returned for another course, came home and saved and went back, and back another time. I went to Europe and stayed until I spent every dollar that I had. I repeated that until I was 35 years old. I was laying the foundation for what I believed might possibly be a successful career, and the opportunity was continually coming to me for excellent work, and which is coming to all of you. There is enough neglected surgery in nearly every State in this Union to make the fortunes of this entire medical profession. I wont say you, but in my State, and when it is sifted down to the last analysis they either do not understand the underlying principle of surgery that might be done, or haven't the confidence which comes from training and experience to do it. Think of the relief that is brought to suffering women by the hundreds, and these things are worthy of your consideration. There are enough hemorrhoids in Kentucky to make the fortune of a good part of the profession. Every fourth or fifth man ought to be relieved, and you ought not to send him away without the comfort which the simplest sort of surgical operation will give him. What is true of these things is true of hundreds of others.

I am consuming more time than I had intended, and I feel like I have presented these things in a very rambling sort of way, but what I am trying to lay before you in a plain way. I feel that I am not presenting these matters as convincingly as might be done by others, but what I want to bring before you, especially the young men of the profession of this State, is that these opportunities are open to them, and it is the duty of you older men to encourage them in this work. Take him to your house and give him of your sustenance. You will never be the loser to the extent of one dollar. I have seen it tried over and over again, and the men who have succeeded in this world in medicine everywhere I have gone—which now extends over this entire country—are the men who extend the glad hand of help to their fellows when the occasion offers. Now I want to refer—I have spoken so imperfectly on the opportunities in business methods. In Louisville some of my friends have combined since this spirit has gone abroad—they have reduced their expenses very materially. They have one large waiting room, each has his own consulting room into it. Their office hours are arranged for different hours, so that one office girl only is required to answer the 'phone and look after the conveniences and comforts of the office. Their expenses have been very materially reduced. Doctors, in a great many of these instances, employ a common collector and pay him a salary, and he takes the accounts from the books on the first day of every month and goes out collecting, for what would be a large salary for one man to pay. He goes out and does this collecting while the accounts are fresh, before the patients become ungrateful, for, as I said last night, I would like to impress this lesson upon you that patients settle their bills more cheerfully and gratefully before all the red corpuscles have been restored to the circulation—as time goes by they forget their gratitude and complain.

There is one other point that I always like to present to the profession wherever I speak to them, and that is one of the potent factors of the support of quackery in this country that has been developed and fostered by a fault of ours. You know that the quacks and the patent medicine concerns derive their chief support, moral support, in the community from the clergy and the clerical press and the church members of this country. Nearly all the most powerful certificates are given by worthy ministers of the gospel. I speak of this the more freely because when I am at home my house is frequently full of preachers, and I am very fond of them, and I find that the higher members of the clergy are entirely ripe for a reform of this kind.

Oesteopaths, which I have never considered a very important factor—for I have always felt like a negro did whose master put him on a deer stand, and told him to shoot the deer when it passed. The deer came by and almost ran over the negro, and he didn't shoot him. His master asked him why he didn't shoot, and the negro replied: "There is no use wasting a load on that damn deer; at the rate he is going he will kill himself," (Laughter.) Oesteopathy, and all these quack concerns, have the foundation of their support in the preachers of this country and the church members, and I want to appeal to you—to the organized profession of this country—to put the preachers upon the pay list and let them pay their bills like gentlemen. (Applause.) The higher grade are ready for this, and the other class we are under no obligation to them. So I would urge you to do this. Charity patients are the most exacting that we have. They call us at night and in bad weather more than any other class; and preachers are not exceptions to this rule There was one, for instance, he came for me every night about 2 o'clock in the morning to go to see his wife, and I put up with that for ten or twelve days, not very cheerfully I confess, but at the end of the time he came down in the day time and said that he was sorry that he had troubled me in the night, and he thought that he would see me in the day. I said, "that is just as you please, I charge double price for visiting at nights, but it is for you to say whether you would rather pay for day or night visits." He said, "Doctor, do you charge preachers?" I said: "Certainly I do. If you do any preaching for me I will pay you for it, and if I do any practice for you I expect you to pay for it." (Applause.) After they have paid their assessments, there is no more reason why they should render their services gratuitously to the ministers all over this country than bankers should give them their money and bank service free, or grocers their groceries free. And there is no reason why they should not be put on the same footing, in proportion to the brain they put in their businesss they are as well paid as any other class in this community. I had a case in my town of attending a minister's wife in a confinement case, and at the end of the month I sent him my bill. "Do you charge preachers?" I said, "Yes, sir, I do. I don't see any reason why I should go and attend your wife without being paid for it any more than anybody else." He said, "I have never had a bill presented to me before." I said, "Whether

I charge for other practice or not, I certainly would charge for obstetrical practice, for it is certainly not covered in their license to preach." (Laughter and applause.) Now, if my remarks call for laughter, it is in the discussion of a very serious subject, one that I don't believe, aside from questions of organization—if we are to be rid of quacks in this country—there is no more potent influence to be brought to their aid than the clergy of this country. We have driven them away, and I believe we can bring them back. The better class will appreciate it.

There is another class of ministers drawing commissions from quack concerns. They tell me that they get regular salaries from Oesteopaths—patients and students who they send to them. Now the only cure for the evil, to my mind, is to make a self-respecting class of them, and to make them respect us by taking them off the charity list and putting them where they belong, and I urge you to do it. One other point and then I am done.

I have been so pleased with the personel of this Society that I have almost felt like this thought might not be expressed, but I wish to present to you an idea of what I believe the ideal doctor of this country should be. A chain is no stronger than its weakest link, and each of you within my hearing are units in this total of 120,000 doctors in this country. Your influence is very much more important than that of the average doctor, and for that reason I believe that we should impress this lesson upon the profession, and especially upon the younger members of the profession. The day for the swaggering, drunken, dirty doctor in this country has passed. (Applause.) And the ideal doctor, and each of you ought to be him, ought to be the best supported man in the community, because you are the hardest worked man. The banker, the minister, the farmer, the merchant, the laborer goes home at the end of the day of labor to a night of rest, but the physician's work, like Joan's, is never done. As you are the hardest worked men, you ought to be the best supported, the best maintained —it is to the interest of the community as well as the profession. You ought to be the best dressed men in consequence, because you represent the dignity of a great, learned profession. You ought to be the cleanest men—and when I say that I do not merely mean in appearance—I mean in morals, in all those matters that go to make up character. You ought to be such a representative of a great profession that in every community in North Carolina every individual ought to be the kind of man that every good mother and every good father in that community would point to as a model for their son. (Applause.) Now we, probably, will never attain to this perfect ideal, because this is an imperfect world and we are part of it, but it is only by keeping such ideals before the profession, and especially before the younger men of it—it is only by some such organization as that I have imperfectly outlined to you, that it will furnish the physician and the student incentive—to every young man in North Carolina, whether he is from some of your most popular centers or in the most sparsely settled country districts, where they may be brought into constant up-lift with his fellows, that the opportunity will be offered to him to rise. There is a very much submerged element of the State in this Union, and it is your duty, it is the duty of each of you as individuals and in your organized capacity professionally to put your hands under these men and lift them up to the light. You may say as Cain said, "I am not my brother's keeper." But he was not excused, and neither will you be until you have done your best, and it is in this spirit that the American Medical Association has undertaken this work. It believes that it is possible. It set the standard high because it does not expect that the ideal, as I have said, will be reached possibly for many years to come, if at all, but it believes this frame-work of the structure should be within the reach of the profession of every State, and every county in every State in this Union, and it is with you to say whether you will take it entirely in your hands here in this great State of North Carolina. I have always from the samples I have seen (we buy everything by samples in Kentucky) of your profession I have always believed that you had probably the highest grade profession in this Union. (Applause.) I have been inclined to divide honors with Alabama since I have been with them, because their work is so nearly perfect—they have attained so much of this ideal standard that I have tried to describe to you—that I am in doubt now as between this State and that of Alabama. But these difficulties which some of you have in mind, I am sure, will be like the mist in the morning when the sunlight shines upon it, they fade away. Most of them will fade away. We would first suggest you will not be able to organize your own county probably, but no hardship need to be worked on any doctor in North Carolina.

Two or three members can hold their charter, if only two or three—and they found some in Sodom. Two or three physicians can certainly be brought together and kept together that will hold the membership. These difficulties, as I say, disappear, and I have no question but what you will be able to secure the results here which have followed this work in every State in which it has been tried. There are so many phases of this question which might be discussed, and as I say I have not presented it as fully as I ought, but I believe I have put the salient features of the necessity for organization. I have not enlarged upon the plan itself because you are familiar with it.

In the House of Delegates of the American Medical Association the members would compare with the Senate of the United States in point of ability and character, and popular reputation, as well. The highest class men were sent there to legislate about your business. You sent some excellent men from this State, and they met men of equally high character; men like Osler, Keen, Bryant, Reed, Welch, &c., men whose names are household words to the professional men of this country. The provisions of this plan of organization were read, and full time was given for the discussion of every one. There was no hurry about it, because there were three solid days given, Mr. President, to the reading of papers and discussion, there was not a motion made during the entire session except it was to extend the time of some man who was reading a paper. But without trespassing further upon your time, Mr. President and gentlemen, I thank you for the opportunity of appearing before you. (Applause).

The Perinæum.*

By H. S. Lott, M. D., Salem, N. C.

The perinæum is the key-stone to the arch which supports the uterus.

In addition to this, it furnishes protection to the vagina and cervix, against external filth, and atmospheric changes. Thus, its two functions, of support and of protection, make it an important item in the female economy.

Injuries to the perinæum are frequent; and, in a large majority of cases unavoidable.

In looking over some practical notes on five hundred cases of labor, from my private practice; I estimate that noticable tears occurred in about fifty. In this five hundred cases one hundred and fifty-three were primiparæ, and three hundred and forty-seven multiparæ, and it was in the primiparœ, chiefly, that the injuries occurred. By noticeable tears, I mean some injury to the perinæum and posterior wall, enough to result in subsequent sagging.

Now, many of these cases were a number of years back, and I would rather incline to its being an under- than an over-estimate of such injuries. In one case, only, was the sphincter destroyed. Forceps were used twenty-eight times, including both primary and multiple deliveries. In delivering women who have borne a number of children, it is a common occurrence to find the perinæum practically destroyed; and I can recall several cases in which its lower segment presented at the vulva, as the uterus was relieved of its burden.

Thus it would seem that most of the injuries to the perinæum occur during childbirth, which is a natural process, and should be accomplished without hurt. Where is the fault, and are our services a contributing factor? Forceps are life-savers, and we cannot dispense with them: yet, I believe that if used injudiciously, or unskillfully, they are often productive of injury to both perinæum and cervix.

We must always bear in mind that labor is preëminently a natural process; and it is wonderful what can be accomplished by a little patience and encouragement.

The child's head is a round body, and while it is a hard one, it adapts itself to, and feels its way through the maternal outlet with comparative safety. Yet it is in the most frequent position, with the head presenting, that we most often have injury to the perinæum. This, I believe, is due to the fact that the shoulders must follow, with a sharp angle presenting, which must plough its way through a canal whose walls have just been stretched to their greatest tension: and with the natural forces from behind, and the aid which often must be rendered from the front, brings destruction to the posterior wall, and the perinæum.

So much for forceful aids to delivery. Now, on the other hand, an inactivity which permits the head to rest for too long a time on the distended soft parts of the maternal outlet, is equally destructive to their vitality, and will bring equally disastrous results. Therefore while I believe that a large majority of accidents to the perinæum during labor are unavoidable; there is no small burden of responsibility resting upon the obstetrician, whose judgment must tell him when and how to interfere.

Among inherent causes, may be counted a tubercular tendency; for I have noted that most cases of extensive perinæal laceration occurred in women whose urine contained sugar at times.

Such then, are the causes most frequent in perinæal injuries. Now, what are their results? What do they bring to the patient?

During the process of involution, subsequent to confinement, the amount of repair is wonderful. When we consider the enormous stretching of the parts incident to pregnancy and labor, we must recognize the fact that nature accomplishes much in restoring them again to their normal tone. In this process slight injuries are repaired, and even noticeable ones improved to such an extent that the woman goes on for a number of years, through repeated confinements perhaps, unconscious through ignorance, of hurt. But remember, the key-stone to the arch, the pillar from beneath the house, is gone; or notably impaired, and with it its supporting function. And, as time goes on, laden with the duties incumbent upon wife and motherhood, the sagging of the vaginal walls increases, and we have a patulous and gaping outlet. In conjunction with which the supports from above being slackened, the uterus settles down below the health line.

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Now, it is at this juncture. most often, that she presents herself for counsel and relief; giving symptoms which are almost uniform, and can hardly mislead. She will tell you that she has headache, and, if asked where, will place her hand on the back of the head. There is dragging pain in the back and hips; a frequent desire to empty the bladder, which, when accomplished, is not satisfactory. while constipation is the rule. Walking or standing tires her greatly, and increases the discomfort; and the feeling that "everything is falling out" is a constant symptom, added to which the "explosion" of air as it is forced from the vagina in the act of sitting, completes the rational signs.

Upon physical examination, in the dorsal position, with the thighs flexed toward the abdomen, the vulva is found gaping, the perinæum lacking both in tone and tissue, and often destroyed down to the sphincter: the vaginal walls, above, below and laterally, relaxed and bulging, and we are sure to find the beginning of a rectocele, or a cystocele, or both. Passing the examining finger into the vagina, the line of the urethra will often be found exquisitely sensitive, and it will also come in contact with a very tender cervix; its os presenting toward the vulva, which indicates the malposition of the uterus. This organ is always found to be below the normal pelvic line, and nearly always retroflexed, with its fundus well down toward the hollow of the sarcum. If we introduce the speculum, and bring the cervix into view, we will find it,—sometimes torn, and sometimes not, but always much engorged, and very sensitive, ready to bleed at the slightest touch. This from exposure to the wind and weather, and not to "ulcers on the womb;" the cervix has been practically out of doors.

Now this condition is one which nature will not repair; and it is also one which makes the woman miserable, lessens her usefulness, and endangers her life.

The headache is a reflex one, and peculiar to this condition. The backache, from an engorged and misplaced uterus, which has lost its supports, and sagged down into the pelvis to interfere with its normal blood supply and nerve currents. The constipation, caused by a lower bowel which has lost its tone, through the absence of a normal recto-vaginal septum. The vesical irritability, due largely to a like weakness of the anterior wall; to which is added a misplaced urethra, and an exposed urethral orifice. The feeling that "everything is falling out," which makes her timid about walking the streets; and the "explosions" which occur when she attempts to sit down, and add to her mortification. And last, but not least, bear in mind the exposed and eroded cervix. made of tissue most susceptible to ravages of filth germs, either cancerous or tubercular, and most prone to degenerative changes.

Now with such conditions confronting us, what shall we do for the patient? The leading wants are two: support and protection. Support for the bladder and urethra, as well as for the uterus; and protection for the cervix against access of irritants.

How can these best be gained? Shall we start at the top, or at the bottom? If the base of your house chimney crumbles, do you fasten it up to the roof, or build a new one? Is our work to be one of repair, or of distortion? The question is not,—how much can the patient stand, but what is the safest, and most simple procedure, promising best to restore the parts to their normal tone, and give relief to the symptoms? While with a free uterus, the suspension operations are comparatively simple, they involve much risk, and are also both unnatural, and unsurgical. And, if the Almighty had intended that a woman's uterus be haltered up to her abdominal wall, He'd have fixed ligaments there, to hold it. The fact that an operation is done, does not establish its merit: and, unfortunately, today there are many mechanical operators, who adopt each passing fad, and change with every season.

Ideal surgery eliminates, and restores. Plastic surgery, for these conditions, is ideal, because it accomplishes both.

In the eagerness for prominence in abdominal surgery, I fear that the practical advantages of plastic operations on the vaginal walls and perinæum have been overshadowed. It is here that the injury occurs, and it is here that the repair should be done.

Very few primiparæ are delivered without some injury to the posterior wall. It may be comparatively slight, perhaps only dividing the mucous membrane and superficial muscles, and not involving at all the integument of the perinæum. But if these slight injuries were sought for, and repaired at the time of their making; it would be a very simple procedure, and each time fresh skill would be gained for the repair of the noticeable and serious ones. And this, with due care for proper involution of the uterus—during the lying in period, would lend much to prevent the subsequent sagging which overtakes most child-bearing women, with its chain of distressing symptoms.

However, the patient presents herself, and must have relief. To my mind, it is a conviction, that the hope for relief to these patients, is through plastic surgery. The method and material used, and the care and precision with which the work is done, are all important factors to success. And, if success does not attend our every effort, it is because we have not given it our fullest thought, and perfected our method of procedure, in mechanism, toilet and technique

The most simple operation, that will meet the indications, is the best one. Now, what are these indications? It seems to me that there are four leading ones; (1) tuck in the rectocele, (2) take up the slack in the lateral walls, (3) shorten and strengthen the posterior wall, and (4) lessen the outlet: thus restoring the normal integrity of the perinæum and vagina, and giving support to the uterus.

With the classical operation of Emmet, that master in plastic surgery, you are all familiar, and, in many cases, it will meet the indications. But, where the laxity of the wall is great, and the bulging rectocele pronounced, it seems to me that bringing the tongue of mucous membrane from its highest point, down to the site of the fourchette, or even beyond, and fastening it there, is not best, because it must make traction on the posterior wall, and also, upon the already downward misplaced uterus.

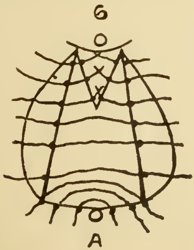
My own conception of a procedure for the relief of these conditions, and which applies, it seems to me, to those of either great or small extent; differs from that of Doctor Emmet chiefly in one point, and that is this, the tip of mucous membrane, instead of being brought down to the outlet, is fastened snugly between the approximated edges of mucous membrane from each lateral wall, as they are brought together in the median line, and held there by a sweeping "crown" stitch from side to side: while from this point to the integument of the perinæum, three stitches, (including this one) are introduced, thus bringing the incised edges from the lateral walls together in a straight line, in the posterior wall; the union of which, gives strength to the recto-vaginal septum, and support to the uterus. The operation, as it came to me very plainly while examining a patient, and trying to decide how I could best give her relief, I will give to you, in brief detail.

The patient, anæsthetized, is placed in the dorsal position, the hips brought quite to the edge of the table, the thighs well flexed on the abdomen, and held by two assistants, one on either side, whose duty it shall be to support the limbs with one hand, and give assistance to the operator with the other. The vagina and external parts are well scrubbed with green soap, and irrigated with several gallons of hot water. With the posterior wall well retracted, a visual examination is made of the uterus. It is usually found much engorged, and too low down. The practice of relieving this engorgement by cutting a triangular plug from the cervix, and uniting the edges of the wound, I do not think best; as the resultant cicatrix, in such tissue as makes up the cervix, promises ill for the future of the patient. This condition, however, may be bettered with safety, by dilating the cervix with a Goodell's dilator, and bleeding the uterus from its internal mucous surface, by a thorough and uniform scraping with a sharp curette; this to be followed by a high irrigation of the uterine cavity with a gallon of normal saline solution, and introducing a plain gauze wick well up to its fundus, to insure perfect drainage, and to be removed at the expiration of twenty-four hours. Now the uterus is pushed well back, the vagina sponged dry, and a gauze pad placed over the os, if necessary, to protect the field of operation. This is best brought into view by having the sides of the outlet retracted by the free hand of an assistant, one on each side. However, before this is done, and with a tenacula in either hand, the labiæ are brought together at a point that will re-establish the normal perinæum: *note this point*, as it marks the terminus of the long incision in each lateral wall, and each case will differ in degree.

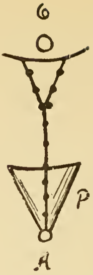
Now pick up the posterior wall at its highest point, a little beyond the summit of the rectocele, if one be present, with either forceps or tenaculum, and transfix it at this point, well up beneath the cervix, with a needle threaded with a long, heavy silk, this to be held by an assistant, to make traction; and, with the scalpel mak. two incisions, one on the right, and one on the left, beginning at the posterior base of the rectocele, or the suspended wall while held in this position, and just beneath the cervix and converging to the point of suspension; thus freeing a triangular tongue of mucous membrane.

Next make a long incision through the mucous membrane of each lateral wall, beginning at the posterior terminus of each primary incision, joining the base of the triangle, and extending in a straight line to the point in each labia determined upon in the beginning of the operation. The final incision, across the perinæum, from left to right, between these two points, and just where the mucous membrane joins the skin, completes this part of the task, and marks out the intervening surface for denudation. The denudation is best done with a pair of medium length scissors, half curved on the flat, and tooth dressing forceps; beginning at the outlet, and cutting up, toward the cervix; this to prevent the flow of blood from covering the undenuded portion, removing the mucous membrane in successive strips, and having a care to freshen the entire surface, to the points of the acute angles, on either side, at the posterior base of the rectocele.

Now except in vaginæ of unusual length, the closure may be effected with twelve sutures, which is the next step in the operation. From base to apex of the triangular tongue, and beginning at the base, introduce, with a threaded needle, three sutures on either side; thus placing six sutures behind the highest point of the rectocele. With the next three sutures, the first one beginning at and including the apex of the triangle, bring together in the median line the two lateral walls; which completes the sutures placed within the vagina. The three final sutures, introduced from without, and intended for the repair of the perinæum, should be made to *bite deep*, in the tissues of this body, in order to *pick up*, and *unite*, the separated ends of its supporting muscles.



Surface denuded, and stitches introduced.



Showing closure, with lines for union.

The ends of each suture are brought together and fastened with a perforated shot, nine within the vagina, and three without, in the perinæum, which completes the operation. In vaginæ of unusual length, and when the perinæum has been extensively torn, the number of stitches must vary somewhat.

The vagina is thoroughly cleansed with hot water, and a simple gauze dressing, with a vulvar pad applied. The knees should be fastened together with a towel, until the patient becomes conscious. When the gauze wick has been introduced into the uterus, the nurse is instructed to remove it in twenty-four hours, and each day thereafter, a hot boracic douche is given.

Great care must be exercised in giving the douche, that the nozzle of the syringe does not come in contact with the stitches; and, in order to avoid this, the thumb and index finger of the left hand should be placed on each side of the vulva, from above, thus retracting the labiæ, and exposing the urethral orifice; while, with the right hand, the nozzle is passed down over the symphysis, and into the vagina, hugging the anterior wall throughout.

As a rule, the patient will be unable to void the urine, for the first forty-eight hours after the operation; and the bladder must be emptied with the catheter. This should be done with great care and cleanliness, and the parts well dried with gauze, and dusted with boracic acid afterwards.

Encourage the passing of flatus, and favor it, if need be, by instructing the nurse to introduce the nozzle of a syringe into the bowel, and leave it there for awhile. The bowels may be moved on the third day after the operation; and it is best, at first, to throw a quart of warm soap suds into the lower bowel, to be followed after awhile by a teaspoonful dose of epsom salts, in hot water by the mouth, and repeated at intervals of two or four hours, until effectual. Patients complain very bitterly of having to lie so constantly on their backs in the days following this operation. Instruct them to place the knees close together, and then draw the lower limbs up at a right angle with the body; then instruct the nurse to place one hand upon the knees, and one upon the patient's shoulder, and push her over: this, with a pillow put snugly to her back, will rest her, and will not disturb the stitches.

The stitches may be removed on the tenth day; and this should be done with the patient on her back, and the limbs well flexed upon the abdomen, on the edge of the bed, or a table, before a good light. The anterior wall may be retracted carefully, with a Sim's speculum, held by a nurse, while the stitches are sought for with the finger, and removed with a pair of blunt or pointed scissors, as the need may be, and a pair of dressing forceps. While doing this, we should have an abundance of time and patience at our disposal.

In plastic surgery, little things are of much importance, and help to bring us success. For instance, it seems to me that Emmet's half-curved needles, long and short, serve best in repair of the vaginal walls and perinæum, because they can be most deftly and accurately guided through the delicate structures, with greater certainty of placing the stitch just where we want it; and less danger of puncturing the bowel. This is important, as we should be able to guide the needle to its point of exit without the clumsy method of inserting a finger into the bowel. We should have an abundance of needles, and have them armed with silk ligature carriers beforehand, and thus insure the the toilet of our operation.

Needles and ligature material should be of the same size, as nearly as it is possible; for, with a large needle, and a small ligature to follow it, the track must fill with blood; which before it is disposed of, may destroy our chances of success. Silk-worm-gut makes the best ligature material, because we can feel greater certainty of its being clean when we put it in; and there is less danger of its becoming infected from absorption afterwards. If we tie the stitches, the knot will sink beyond the desired point when it is tightened, thus pinching the tissues, and lessening their vitality; whereas, a shot is carried to the point at which it just apposes the incised edges of the mucous membrane, and we may fix it there, without pinching them at all.

The woman should be kept in bed for at least four weeks, and be lazy for some weeks afterwards, if the sagging has been great, and the repair at all extensive. She always needs the rest, and it is not always the operation alone, but all that the operation involves, that helps the patient.

The one case in which the sphincter was destroyed was repaired at once, without obtaining union. But subsequently, when the mother had weaned her babe, I did for her the Emmet operation, step by step, dissecting out the buried ends of the torn sphincter, and uniting them again; with a result which made her a happy woman, and gave me a clear conscience, for I had torn her.

The operation that has been described to you, is so much like others that have been described, that it may seem like an old story: but sometimes the old songs and the old stories, are better than the new. They have more simplicity, more truth, and, because of these, they live longer, and serve better. Besides, it seems to me that there are some points in its favor, and that it accomplishes with greater certainty, the desired result. It is applicable to a very large class of suffering women; and its mechanism, when completed, gives promise of attaining the four cardinal wants, viz: Repair of the perinæum, taking the slack from the lateral walls, removing the rectocele, or simple laxity of the posterior wall, as the case may be; and supplying in its stead, a contracting, cicatricial column, with a pronged projection into the vaginal fornix; which most nearly restores the parts to their normal function, of giving support, and protection, to the organs above.

134 South Cherry street.

Benefits Derived from a County Medical Society.*

By Dr. Albert Anderson, Wilson, N. C.

For a profession or an institution to succeed it must be based upon correct principles. We have based our profession on a Code of Ethics, but we have not built our superstructure upon this basis. Our building in many respects is out of harmony with the principles of our code, and hence thro' the ages we have been shorn of our strength in making ourselves felt among the people in obedience, honor, respect and reputation. Our greatness has been individual—not collective. "United we stand, divided we fall," seems never to have entered into our plans of self preservation. Could we plant and fructify this truism in the minds of North Carolina doctors we would soon have a good medical society in every county, and these County Societies would make an ideal State Society. As to my personal experience, I owe perhaps more to medical society meetings than to all other sources for the medical knowledge I have.

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*Read before the North Carolina Medical Society, at Hot Springs, June 3rd, 1903.

The first prerequisite to obtain ability or power to do a thing is the birth of a desire. At our County, State, and National meetings desires are born and ambition aroused that stimulate a growth of character and ability and the fraternal relations which lighten the burdens of life and increase our joys.

Isolate a man or woman from human society and his or her desires become fewer as the duration of such isolation continues. Ambition for larger fields of usefulness—for more power to do things, is a stranger to such a soul. The same is true of a doctor, and we have seen it verified in many instances.

Start him out in the world with a good medical and surgical education and let him dissociate himself with medical men all his life, and that doctor soon begins a process of degeneration in every mental and moral fibre of his professional nature till he degenerates into a veritable quack and ignoramus. This is the inevitable tendency by nature, as observed both in animal and vegetable life.

All life that develops must have nourishment, and that one great necessity must come from some external source. But there is a best way of taking in and utilizing this nourishment, and any other way leads to indigestion and malassimilation. The physician can nourish his brain by reading and discussing with others, medical subjects. Reading is a passive exercise, and when done in a hurry, tends to mental indigestion and produces in many of us a flow of words and a paucity of ideas. While reading, reflecting and discussing medical subjects is an active mental gymnastics that gives proper digestion and assimilation and classification of facts, data, and formula for ready and accurate use in emergencies and grave diseases. We see these results in so-called great scholars of all professions who write volumes without ideas which are hard to find publishers and harder still to find readers. Such work is theoretical—not practical and experimental. Every theory or doctrine is a dead formula that does not come through practical experiment.

A doctor writes a paper for publication —you read it and do not get his meaning. Let him read the same paper before a society of his fellows, and his words and expressions spoken and seen, bring out a meaning the cold print will not, and a review and discussion of the same will devolop its truths and eliminate its errors. So this suggests the figure of sifting the grain to separate the chaff from the wheat, the hulls from the peas, the dirt and other impurities from the solid grain. This truth has been established not only in medicine but in religion, so that christian experiences interchanged among members of the same church clarify the spiritual visions, strengthen faith and brighten hopes.

There are 120,000 physicians approximately in the United States. Of this number there are 70,000 licensed practitioners who are not members of any medical organization—County, State or National. To have a united medical profession thoroughly organized and loyal to the fundamental principles of our high calling is perhaps an utopian dream that will never come to pass.

But the third of our profession who are organized with enthusiasm and zeal, can do much, and are doing a great deal to bring within our membership all those who are worthy by overcoming the apathy, indifference and ignorance of the practical value of membership of the two-thirds. How to reach those outside ones and bring them into harmony is the duty of the hour. There is only one way to perform this duty —"To carry the Gospel to the Gentiles." Put a Medical Society in every county of the State, the membership in which will be the credentials to pass into the State Society. Let the County Societies look to the ingathering of all worthy medical men and leave out the unworthy, irregulars and quacks. As it is now, we often see a member of our State Society who cannot enter a County Society upon merit, and proceeds to violate every code of honor and every principle of business. Once established and in good working order, a County Medical Society is bound to succeed. With our experience of the benefits which have come to us through our regular and irregular meetings of the Wilson County Medical Society for the last twelve or fifteen years, how could we feel at ease in conscience or mind to let our Society die.

To reach the highest standard in medicine we must have the personal teaching of one doctor by another. We cannot get the same knowledge from verbal description of books and Journal articles. So it has been the habit of some of our men to make trips to New York and other places to learn new methods by coming in personal contact with our brightest men. When such ones return home there is a new impulse given to fellow members of a County Society by the personal description and explanation of what he has seen and heard.

In all associations of men, we know the strong will help the weak—"The potential members will give the aid that one needs and the other possesses." Any doctor who is alive to the importance of his work cannot spend an hour in discussing a medical topic with brother doctors without reward, large or small.

Medical sociology is, therefore, a study worthy of earnest consideration, and such consideration will create the enthusiasm and zeal of a religious missionary who dares to do or die in his efforts to spread the knowledge of the Book of books among those unacquainted with its saving and civilizing power.

Indolence and indifference are two characteristics of doctors. We can eradicate the first by organization, in which desires are born for better things, and ambition is stirred to excel. The latter is overcome by comparison between the indifferent and earnest workers, the latter outdistancing the former in knowledge and finance. Make our Societies perform their full functions as organizations representing medical body politic, and as such conduct them for the best interest of our members. I am glad to say that we in Wilson county are not guilty of the narrowness and exclusiveness that prevails in some communities against the young doctor. Fresh from college the young graduate is theoretical more than practical, and he feels that he stands in need of knowledge that comes from experience, (and he does), and this he can find in home Medical Societies. If he is met at the threshhold of his profession by coldness and exclusiveness from those established in practice, he may (the chances are that he will) drop into quack ways and disobey our code's teachings until he forgets there is a code. He brings dishonor upon a noble profession, and a disintegration as far as his influence extends and the whole Medical fraternity feels the shock. We have tried in every instance to incorporate within our Society these young men, but have failed because of outside influences. Great is our loss, and tenfold greater is theirs, because in time they will lose all interest in medical topics, respect for professional honor and integrity, and all that will actuate them in this work will be a commercial spirit which alone is a vampire upon their professional life that will suck all the blood from them and leave them a dry rot.

Physicians need advice and help as no other men do. I quote: "Although physicians need this, we often find that where there are but two doctors in a community this spirit of envy and contention pitched upon the lowest possible plane, so divides them and infects the community as to be utterly destructive of that public respect and confidence to which both are perhaps equally entitled. We find they quarrel about patients who would not pay either of them if they could, or about provisions of the code which neither of them have read; that one is afraid to collect his just fees for fear the other will get some of his offended patrons; that ambition for surgery or other special work is hindered by the fact that one will send for consultation, or send his patients, to a distant town or city rather than ask the assistance of his neighbor; in a word, this curse which clings to our profession with such tenacity, and blights all to which it clings, bars all advancement and destroys ideals of professional life."

With such environment our horizon grows smaller and smaller with the years until we drop out of the race and become the unkempt and self-satisfied medical degenerate only too frequently to be found without search. We are thankful that to some unknown source we have overcome partially these environments in our county. If we could have organized our medical men years ago into a Monthly Medical Society, to-day we would be the chief center of the profession, many fold greater in professional and mental ability and incomes contributed to by different parts of the State. United we stand first—divided we may come last. A union of County, State and National Associations would make us invincible to foes of disease, ignorance of the laity, quackery in its hydra-headed manipulation, so damnable to the welfare of the people, and such a thief to their pockets.

Disease, ignorance and quackery are hard foes to conquer, and the experience of the past tell us in thundering tones the battle cannot be won upon the old lines. Reorganize! It is the only thing to do if we expect to win our way to influence, effectiveness and power, in law and with the people. The important step which ought to be started at once is to stop at the threshhold of college those unqualified in any way, especially by deficient education.

Medical institutions are getting on a higher plane, forced there by State Boards of Medical Examiners. And through the same power lower grade schools are being destroyed.

Things to Consider Before Sending the Tuberculosis Patient Away from Home.

By Martin L. Stevens, M. D., Asheville, N. C.

Every physician who is familiar with conditions such as obtain in the climatic resorts for pulmonary diseases, and who treats and becomes familiar with the physical and financial condition of many of these cases—who sees daily in his practice and in the public places unfortunates who have been sent away from home by the family physician without due consideration of what they will do and how they will fare in the place to which they are sent—who sees far advanced patients too sick to be out of bed, buoyed up by the consumptive's hope, slowly dragging themselves about, when he who runs may read that every step brings them nearer the grave, who sees curable, early stage patients seemingly not sick enough to need treatment, for lack of guidance and care advance steadily into hopeless disease—must be impressed with the fact that in very many instances the family physician has not duly considered all the things that he should consider before sending his patient away from home. It is with numerous illustrations of this fresh in memory that I desire briefly to remind you of some of the things that should in every case receive consideration before a tuberculous patient goes out from under the care of the family adviser.

Benefit to be Derived.

First of all is the case such as can be cured or at least benefitted by proper treatment under suitable climatic conditions? And in determining this I would, without going into detail, mention certain things that must not be lost sight of. Far advanced cases are as yet, even under the best of treatment, combined with the best of hygienic and climatic conditions, incurable. Certain complications debar a case from hope of recovery or even of permanent arrestment of his trouble. Among these I would specially mention diabetes mellitus, which as a complication has thus far proven insurmountable, amyloid changes in the kidney, frequently seen in advanced cases, and chronic interstitial nephritis, sometimes present in the cases past middle life, which have in connection with tuberculosis prognostic significance that should cause the patient to be advised to remain at home. Laryngeal ulceration if sufficient to interfere with deglutition will so stand in the way of the nutrition of the patient that curative treatment will be futile. In consequence, no change of climate should be permitted unless by such change he could be placed under the care of a laryngologist who could make him more comfortable.

Certain other complications should interfere temporarily with any proposed change of climate because of the special risk which would attend it. After a pulmonary hemorrhage a journey should not be undertaken for at least two weeks, especially if the trip be long or the proposed change be to a much higher altitude. Earlier than this the risk would be greater than could be compensated for by any reasonable hope of gain in the short time that would have to elapse before the period of special danger would be past.

An attack of pleurisy or of bronchitis or of grippe should stand in the way of any change until all acute symptoms have subsided. During a pneumonia, of course, no one would think of sending a patient away from home. And during the softening and excavating of a caseous portion of the lung, with attendant high temperature, there needs to be considered the possible bad effect of the over-exertion and fatigue which are inseparable from travel, and of the depression of spirits, disappointment and homesickness which sometimes result in patients confined to their beds away from home and without the accustomed companionship of relatives and friends.

The presence of Ehrlich's (diazo) reaction in the urine—the importance of which is perhaps overestimated—has also a bad prognostic significance in those cases in which it persists regardless of treatment. But alone it should not condemn a case except in so far as it may be confirmatory of conclusions arrived at by other means of examination. Among the single symptoms which, apart from complications, throw light on the progress of the disease, there is none upon which more dependence can be placed than the temperature. In general the destructive process runs *pari passu* with the height of the fever. And in determining the temperature it must be borne in mind that it may be normal at one period of the day and 101 or 102 degs. at another. And, this too, without the patient being aware of it. I have repeatedly in response to direct inquiry been told by new patients that they had no fever, when at the time the statement was made I found it 102 degs. or more. The strength of the patient needs to be considered with reference to the exhausting effect of the journey which at times does greater harm than can be compensated for by the good effect of any climate or subsequent mode of treatment. And of course those cases in which the lung involvment is so great as to preclude the possibility of benefit should be kept at home. That doctor is culpable indeed who advises a dying patient, or one so far advanced in the disease that he cannot be benefitted, to give up the comforts of home in exchange for the sufferings and annoyances which must be endured by the sick when traveling, and to expend his small store of strength in a fruitless journey. The curable cases are the ones that usually remain at home, because they are not aware of their need of treatment, while those who should remain at home because of the hopelessness of their condition are too often referred to the specialist.

Character of Patient.

Has he strength of character sufficient to enable him to stand out against the numerous influences and tendencies which are antagonistic to his recovery? The importance of this can hardly be overestimated. The advantage possessed by one who can determinedly apply himself to the one purpose of getting well, and make his every act subservient to that one purpose, is great indeed. It requires no small strength of will to do this, and that there be many who fail in this respect can be seen on all sides. The alcohol habitue, whose habit made him an easy victim to the disease, is unwilling to give up or control his habit even though his cure depend upon it. The dyspeptic, though knowing that he is dependent primarily upon his digestive organs, continues to tempt Providence by abusing them. The devotee of society expects his physician to cure him while he violates all of nature's laws and neglects his part of the treatment. Invalids of all classes are easily influenced by companions who have the same or kindred maladies. And in the consumptive, will power is often lacking. Cases that have not strength of character sufficient to enable them to grasp the seriousness of the situation and to co-operate fully with the physician, are not very favorable cases for treatment.

Financial Condition.

It is yet true that money is essential to the cure of the disease, and that the opportunities for best treatment are only within reach of the unfortunate rich, and that but little has as yet been done to help the doubly unfortunate poor. God speed the day when legislatures and philanthropists shall have provided for this most crying need of our time. Until this is done the family physician will have to decide upon a place and plan of treatment which is suited not only to the needs but to the means of the patient. And in many instances he will have to decide to what extent financial sacrifice is justifiable. And it is along this line that some of the greatest blunders are made. The patient is unwilling to make sacrifice until the reason for it is apprrent, and the false sense of security which attends the disease stands in the way of his realizing his condition until the disease has advanced so far that a complete restoration of health may be impossible, or, even if possible, the financial outlay then necessary to effect a cure may be so great that he cannot meet it. There must be impressed upon every one, and especially upon the patient of limited means, the fact that the earlier treatment is begun the greater the sacrifice that can be assumed, and the more advanced the disease the less the sacrifice that is justifiable. Truly all that a man hath will he give for his life. But I have often seen a man expend for a vain hope the real necessities of life, and this, too, when some other member of the family was suffering from the same disease in a curable form, but who was sacrificed in favor of the incurable one whose case seemed more urgent. Early in the disease no sacrifice is too great if judiciously made.

Medical Care.

Is he to be under the care of a local physician in the place to which he is sent? There is no one thing upon which success of treatment is so much dependent as upon the control of the patient, and the constant oversight and directing of the details of his life. This is impossible if the patient is to manage his own case under the guidance of his home physician. As well send him to sea without chart or compass. The seriousness of his case is lost sight of, and he cannot put forth his best efforts towards recovery. He comes in contact with numerous fellow-sufferers, each of whom is ready to advise him how to manage his case. He drifts from one plan of treatment to another, becomes the victim of self experimentation and of the experimentation of his companions, and an easy prey for the quack and the charlatan. Good treatment under suitable home conditions in any climate is much to be preferred to the best climate in the world without direct medical oversight of the patient.

The Health Resort.

The conditions to be found in the place to which the patient is to be sent should also be considered. In this connection it is well to remember that climate is not the only nor the most important qualification. There should be facilities for the best of medical care. There should be facilities for carrying out the dietetic part of treatment, upon which so much depends. This is hardly possible in places not accessible to good markets and good dairies. There should be facilities for proper nursing in emergency. There should be an absence of those influences and conditions that are prejudicial to the patient's welfare, or that in any respect stand in the way of his following a perfectly regulated and hygenic mode of life. It is a mistake to send a patient to a pleasure resort in the hope that the return of health will be favored by the gaiety of those about him, in contradistinction to the supposed depressing effect which the presence of invalids would have upon him at a health resort. The requirements of society as to hours for sleep, as to dress, and as to various social functions are incompatible with the life which he must lead if he would regain his health, and the fact that he must constantly deny himself pleasures in which those about him participate makes his life there a combination of sacrifice and temptation. Whereas were he surrounded by others who were following the same mode of life prescribed for him, his task would be much easier, and the improved condition and the hopefulness of those who have been there longer than himself, would afford him more encouragement than he could possibly get from the companionship of those who are well and in whose enjoyments he cannot fully participate.

Should Know the Nature of Disease and Responsibility to Public.

Under no circumstances should a tuberculous patient be permitted to leave home with a false conception as to the nature of his malady, and without knowing his responsibility to those with whom he comes in contact. No one desires to be the bearer of unpleasant intelligence. But false ideas of sentimentality should not stand between the physician and his duty. A patient with this disease will always thank you for candor, and he will censure you most justly if he finds that he has lost his opportunity of recovery through your lack of it. He cannot carry out directions intelligently and do that which is necessary to effect his cure unless he understands the reason for it. And he is a mence to the health of those about him unless he takes proper precautions to prevent the spread of his disease. He needs to know also that the public are more or less afraid of him, and that in some places he may be put to inconvenience in finding suitable accommodations. This fear on the part of the public is well grounded, and is increased by the fact that there are yet many patients who have been told that they have bronchitis, or throat trouble, or dyspepsia, or weak lungs, and who, knowing no need of precaution, go about expectorating everywhere and scattering the disease broadcast. The responsibility for this rests with the family physician. Many of these cases do not, unless an emergency arises, fall into the hands of the physicians in the places to which they go. Those physicians who deceive their patients in this matter usually belong to that class who have not yet learned that the disease is amenable to treatment, and who only aim to guide them comfortably to the grave instead of back to health and usefulness. Those of their patients who go the health resorts are usually advised by them to take no treatment, but to live out doors, take plenty of exercise, drink plenty of whisky and rough it. And how often have we seen patients who were excavating in some portion of the lung, and whose temperature each day reached perhaps 3 deg. above normal trying to carry out such advice, exhausting themselves by long walks or even riding horseback, taking life in hand every time they mount the saddle, and supporting their feeble strength by the too liberal use of alcohol. That occasionally a patient gets well in the face of such obstacles only proves the curability of the disease and not the wisdom of the treatment.

So before sending your patient away from home, consider whether he will be benefitted. Consider his character with reference to the influence it will have upon his prospect of recovery. Consider his financial condition, and that if sacrifice has to be made it is the part of wisdom and economy to make it early. Consider his need of medical care and control wherever he is, and that good treatment in an unfavorable climate is better than a favorable climate without treatment. Consider the facilities which the health resort offers for the cure of his disease, rather than those offered for his pleasure. Consider the need of candor as to h s condition, and his responsibility to the public.

The Technic of Abdominal Surgery and the After Treatment.*

By Wm. Redin Kirk, Ph. D. M. D., Hendersonville, N. C., Some time Adjunct Professor of Abdominal Surgery and Diseases of Women in the Hospital College of Medicine, Louisville, Ky., Visiting Surgeon Louisville City Hospital, Assistant Surgeon to the Jennie Cassady Infirmary for Women, late Adjunct Assistant Surgeon U. S. Army, Member Buncombe County Medical Society, North Carolina State Medical Society, Tri-State Medical Society, Etc.

Scattered through medical literature there are many aphorisms, but none so true as one from the lips of a distinguished contemporary who said, "It is the kind and willing but unclean hand that plays havoc with abdominal surgery." Many of you older men have seen and been through the black and septic surgical era. We newer and younger men are now elbowing our way to the operating table in the full light of anti-septic and aseptic surgery, thanks to the light of the luminous mind of Joseph Lister. It now behooves us that we take no backward step, but following in the footsteps of our illustrious predecessors we may keep open and blaze the way for those who will follow.

The surgeon himself should be well versed in modern methods of research so that he may intelligently deal with all cases. In view of the present advancement of surgical bacteriology, there is no excuse for any one who pretends to follow our art, no matter how far removed from the great medical centers, for not being thoroughly competent to diagnose most of the cases that come under our care. If he is not equipped to handle all patients, he should be so conversant with all modern methods of differential diagnosis, that if unable to treat the case himself, he can refer it to the nearest competent surgeon who can.

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* Read before the North Carolina Medical Society at Hot Springs, N. C., June 3, 1903.

Now, there occurs to me that there is a point just here—while it may be desultory, yet it is not altogether inappropriate—and that is a tendency of a few members of our profession who, through jealousy, etc., send their patients great distances to distinguished surgeons at great cost to their charges, when there are close at hand men who are thoroughly competent, although not so well known, who can care for their patients quite as well and at infinitely less cost.

Surgeons are made, not born, and experience in handling instruments, assisting at operations and closely following cases after operation, are really the essential means that make the successful operator, not text book information alone.

I once heard a rather well-known member of our profession remark, "Oh, anybody can do abdominal surgery; all you have to do is to read up." What a fatal mistake if really believed! Only after assisting at over two hundred operations do I feel anywhere near competent to invade the sacred precincts of the abdominal cavity with my own hands. No text book can teach you touch. Without that sense to its fullest extent ought any one to enter the abdominal region.

A ruthless disregard for all minor details so essential to success in abdominal work has done much to discourage this branch of the surgical art. Nothing previously said is meant to deter a competent or self reliant man from meeting and fighting boldly with all the courage and skill at his hand. Where would we have been to-day had it not been for that grand old abdominal surgeon, Ephriam McDowell, who, in 1829, with a howling mob at his door ready to lynch him if the result had been fatal, operated upon a Mrs. Crawford without the aid of the antiseptic method and removed an ovarian cyst.

Where it is possible for the abdominal surgeon to confine himself strictly to his specialty it is best, but when this cannot be done, the surgeon who aspires to this class of work should see that he runs no unnecessary risk of infecting his patients. He should keep his person at all times in the best possible antiseptic condition. Careful attention to such matters as keeping the finger nails cut and clean, spotless linen and all apparel in the best possible order. His toilet at the operating table will be considered later.

Next in importance to the operator himself is his assistants, and these should be selected with the utmost care. One assistant across the table, a trained nurse to handle sponges, etc., with an additional nurse is all that is needed in most operations. An assistant who knows the operator's methods and can anticipate him in his every movement, is almost invaluable. Such an one is ever ready, vigilant and silent—and of all the cardinal virtues, silence I place above all the rest, for an assistant who constantly talks, expressing his views, making suggestions and venting his doubts and fears, is a nuisance. He should be tabooed, for he not only renders little assistance but is a constant source of annoyance to the operator. One who speaks when spoken to, or asked for an opinion or suggestion, who watches the operator and anticipates him, saving the operator much trouble, is a jewel of rare price and much to be appreciated. Only those who have had to do with unsatisfactory assistants picked up here and there can realize how much it is possible for an assistant who is trusted can really help. One connected with college or hospital work is good; I found no better assistant than a first course medical student, and when connected with our army I always preferred and had a private member of the hospital corps who was reliable and intelligent, in preference to an assistant surgeon in the service. They are better suited because they do what they are told, and do not annoy you with what they think of the case. It is unnecessary to say that they should be as scrupulously observant of the rules of antiseptic and aseptic methods as the surgeon.

No more assistants should be used than are absolutely necessary, as the chances of infection are thereby materially diminished. Nurses, if not trained, should be instructed carefully in all the little details so essential for success. When competent, they may be trusted with the preparation and care of the dressings, instruments, etc. Unless they are trained, it is better for the operator to look after these minor details for himself, for upon the closest scrutiny of every minor detail connected with the operation, no matter how insignificant it may seem, will depend the success or failure of each case.

Nurses, if in an institution, should be selected for their proficiency in this especial line. All nurses do not like surgical work, but I have never found yet a nurse, male or female, who liked surgical work, who was not thoroughly competent and trustworthy.

Instruments.

In the matter of instruments, each additional instrument—like each added nurse—is another source of possible infection, and you know from observing the most celebrated and successful surgeons, that they use very few instruments. The greater confidence the surgeon has in himself the less he relies upon the number of his instruments. For any ordinary operation requiring the opening of the abdominal cavity, only the following will generally be needed :

A scalpel, small flat blade, for the incision through the abdominal wall; one and one-half dozen pair of artery forceps to catch the small spurting arterial twigs while going through the muscles; two artery forceps to catçh up the parietal peritoneum and lift it up clear of the vicera until an opening can be made with a pair of scissors guided by the forefinger of the operator's left hand. The opening once made may be enlarged so as to admit two or three forefingers, or the entire hand, as the occasion may demand. The viscera must be protected by the hand, held palm up, or the introduction of a sterile piece of flat gauze. An ordinary aneurism needle, two retractors, a pair of long nosed forceps and regular sponge holder; one-half dozen strong, round, straight or curved needles, for sewing up the abdominal wall.

Instruments that may be needed in an accident or emergency I prefer to have close at hand and properly sterilized, but unexposed unless occasion demands, when they can be quickly had and handled by an assistant whose hands are properly prepared to receive them.

All instruments that are used should be boiled in a one per cent solution of sodium bi-carbonate and left wrapped in the towel that contains them until ready for use. Then they may be transferred to shallow dishes containing hot saline solution in aseptic cases, or to a solution of carbolic acid or some other antiseptic when the case is septic. As far as possible all instruments should present smooth surfaces and be nickel plated, so they may be readily cleansed and easily sterilized.

The arrangements of the operating room must necessarily vary with the conditions. It is unnecessary here to go into a detailed description of the different arrangements of the operating rooms of the different principal hospitals of the country, as most of you are familiar with them. What concerns us most is how we shall arrange for an operation in the private house of our patient, or in an improvised hospital of our own. We cannot have in most of our cases the modern aseptic furniture so beautiful and efficient, but must rely upon our own resources to use the best we have at hand to the greatest advantage. In operating in private families, while it is best to secure a room well lighted and ventilated, it is necessary to remove all papers, books, carpets, rugs, etc.; and, in other words, all unnecessary furniture. If this can be done twenty-four hours before the operation, then it is well to wipe and dust thoroughly, but if emergency demands an immediate operation, it is best not to disturb the arrangement of the room to any great extent, for dust once raised will not settle soon, and one of the most dangerous elements of abdominal work will be present. In preparing room in a private house it is best to go over all exposed surfaces with a cloth wrung out of oil or an aqueous solution containing bi-chloride rather than rely upon dusting or wiping off surfaces with a dry rag.

Where it is not possible to bring your own operating table, a kitchen table and one or two small tables may be utilized. These, of course, must be previously gone over with bi-chloride and covered with sterilized sheets or oil cloth. The technic of abdominal surgery in the field during military operations will hardly serve us here, so we may pass that by without a word.

Now, after attention has been paid to the surgeon himself, to the surgeon's environments, to the surgeon's assistants, sterilization methods just prior to the operation may be considered.

First, sterilization of the field of operation upon the patient we may consider. Twenty-four hours before operating the patient should be given a bath all over. In the first place, well scrubbed with green soap and a stiff brush, washing with sterile water, dried by sterile towels when possible, then with antiseptic solution, to which 5000 bi-chloride or lysol solution, then with ether and covered with bi-chloride cloths, and the binder fastened tight, and left until the moment of operation. After the patient is anæsthetized upon the table these dressings may be removed and the field of operation gone over again, washing with bi-chloride, going over carefully with alcohol or ether, then drying and bi-chloride again. Then the patient is ready for operation. These precautions seem to be necessary, because we all know that even after the surface of the skin is thoroughly disinfected we have recovered bacteria upon the surface brought up by the sweat and oil glands of the skin.

Now the surgeon and his assistants must

look to the sterilization of their hands, arms or any part of their person that may come in contact with the patient. Many different methods are used in the different hospitals, but the two methods usually employed are the bichloride and Conday, or permanganate-oxalic method. The former consists in about five minutes' scrubbing of the hands with plain soap and water, afterwards immersing them in 5000 bichloride solution, rubbing well with ether or alcohol, and then finally rinsing the hands in plain, hot, sterile normal salt solution. In the Conday method, after the preliminary soap and water, the hands are immersed in a hot saturated solution of permanganate until the skin is dyed a deep mahogany. Then the hands are transferred to a bowl or basin containing a hot aqueous saturated solution of oxalic acid. The hands are then freed of acid by bathing them in a solution of chlorinated lime, then washing with plain sterilized water.

Lately a great many surgeons have employed gloves in their abdominal work, some using rubber gloves and some plain white cotton gloves. When rubber gloves are worn the operator and assistants anoint their hands with soapstone butter and then put on the tight-fitting thin rubber gloves. About the wrist is bound a piece of gauze. The only place I ever saw the white cotton gloves used was in the German Hospital in New York. The operator and all his assistants used these gloves, the operator changing his pair after the operation and before handling the final dressings. Some operators dispense with the gloves and use merely finger stubs. For my own part, I have seen just as good results every bit from operators equally as skilled as our celebrated New York surgeons, who used no gloves whatever, and relied upon the careful disinfection of the hands before operation.

Dr. McMurtry, of Louisville, Ky., whose mortality status will compare favorably with most any of our leading surgeons, whose assistant I was for five years, never used gloves, because he said he always felt that they interfered somewhat, though even slightly with his touch.

In the matter of making an incision, no longer incision should be made than is indicated in each individual case, for the more vicera exposed means the more shock and increased danger of infection. In handling the intestines, if it is necessary to remove them from the cavity, they should be covered with towels wrung out of hot sterile normal salt solution and left exposed just so long as it is absolutely necessary.

Each portion of the intestines, if it is necessary to examine it minutely, should be returned to the cavity as soon as the inspection is made. The omentum is specially delicate and should be handled with great care, always covering with towels at least the temperature of the interior of the abdominal cavity.

The question of drainage is one that has been much discussed in late years, and I believe that we have all arrived at the conclusion that when an operation is successfully done, and there is no septic affects to the case, that there is no danger in sewing up the wound entire without drainage, for we know that a portion of the peritoneum readily absorbs all the foreign material. This is especially true of the net work of glands that lie just below the diaphram, and for this reason lately some distinguished surgeon has recommended that we leave a small amount of normal saline solution within the cavity and leave the foot of the bed elevated so that all material of any nature may drain toward the abdomen and be absorbed there rather than collect in the cul-de-sac of Douglass and drain out by glass tubes as of yore. The abdominal cavity, I think, in most cases when it is necessary to flush it with water should be left partially full, not only that the intestines are allowed freer movement, but because of the rapid absorption of the fluid contained the patient is relieved a great deal of the thirst which is most annoying to the patient, nurse and doctor. We all know the annoyance of gratifying the thirst of these patients after operation by small amounts of water, the vomiting that may follow and its consequences.

This naturally brings us to the after treatment of these cases, and let me say here that almost as important as is the operation itself is the after treatment of each case.

After treatment resolves itself into wisely letting alone a good condition. *Don't tinker.* The great horror of the abdominal surgeon is the tripod—homorrhage, intestinal obstruction and peritonitis.

Peritonitis.

The injection of a moderate quantity of a cloudy culture of bacteria into the peritoneal cavity produces no peritonitis, neither does the injection of the bacteria and their toxins. Both are rapidly absorbed by the healthy peritoneum. Sterile particles of feces and sterile contents of the small intestine are equally inocuous. "There must be some injury to the cells of the lining endothelium in order that the bacteria may find a place to grow and set up those tissue changes we call peritonitis." Such an injury may be produced by drying of the peritoneal surface, by rough handling, or by irrigation of too strong caustic solutions.

Medical Side of Gynecology.*

By Dr. David A. Stanton, High Point, N. C.

In selecting this subject, I shall not attempt to discuss all the phases which could be classed under the head of medical gynecology, but will consider only a few of the most salient ones.

No one practices medicine long till he is impressed with the fact that the generative organs of the female play an important role in her ill or well being, and while there is much gynecological surgery, there is more medical gynecology, and if closer attention were paid to this side of the subject, there would be less work for the surgeon to do.

More than half the women seeking advice and relief from disorders peculiar to their sex, are suffering from some deranged condition of the eliminative organs, as shown by constipation or defective excretion of solids in the urine; this is true even when there are gross lesions in the pelvic organs. There are many derangements of the general system that resemble disease of the pelvic organs, where really there exists no disease that should come under the surgeon's care. Pain in the back may be due to myalgia or chronic malarial toxemia, or other constitutional causes. Pain in the abdomen may be due to habitual constipation or to an atonic condition of the large intestines instead of an ovarian origin, or uterine derangement per se.

The most natural order for the consideration of the topics for medical gynecology, is the topographical. Passing from above downward, beginning with the brain and taking seriatum the spinal cord, heart, stomach, kidneys, liver, bladder and womb, and passing on the medical side of veritable surgical gynecological cases, we find much that calls for careful consideration and tactful prescribing.

The headaches so common to females are often due to gastric disturbance, secondary to reflex action from some functional derangement arising from the original gynecological malady, e. g.; we often find frontal headache to be reflex from gastric dyspepsia produced by constipation that results from lack of physical exercise, enforced possibly by metritis. Metritis does not produce this cephalgia directly, yet if the metritis did not exist, the intervening link in the pathological chain would not have existed, and the patient would not have had her headache.

The commonest symptoms that we meet with in this class of patients are nervousness, headache and backache. I will not take up the many refined neuroses, but only the most common forms of nerve troubles met with in gynecological patients.

Our writers on this subject say that very often the nervousness above spoken of, arises from an imperfect capillary circulation in some part of the nerve centers; this condition being associated with either deficient cardiac action or deficient secretion from the kidneys or bowels. Following the treatment indicated with simple medical agents will do more towards curing such patients than to exclusively devote all our attention to the internal pelvic organs. A sudorific will make many nervous patients less nervous; a diuretic is often a great benefit, and the relief afforded by the administration of a laxative to those who are constipated, is of more importance than all others, for we know that constipation is productive of a greater number of ills than any other one pathological condition. Also the nervousness claimed to be due to weak heart, I think, is much greater than is attributed to it. A weak heart means less arterial pressure, over-distended capillaries and turgid veins—a vascular condition so often found in our nervous gynecological patients. This fact is proven beyond a doubt by the administration of some cardiac stimulent, such as strychnine, strophanthus or digitalis. It produces an improved circulatory condition, and assists thereby in bringing about the much needed sleep, which in turn strengthens every function which rebuilds the strength of the heart centers in the brain; thus removing the cardiac debility.

Our writers on this subject say that where we have one headache from organic cerebral lesion in our gynecological patients, we have hundreds that are functional or reflex. In considering headaches it is of great aid to note the region that aches, to determine from what source the trouble springs. We find occipital, corronal, temporal, frontal and general headaches. The majority of gynecological patients have one variety only, but occasionally a patient will be found that has nearly all the distinct and separate varieties.

Without going into the details of treatment, and causes of the different varieties of headaches, knowing each physician's knowledge of therapeutics will furnish the remedy, I will briefly run over them.

With the occipital headache, we may question the heart, kidneys and bowels, for it is said a weak heart will cause venous congestion at the base of the brain, and produce a distressing pain in that region. We all have had patients come to us suffering with this form of headache, aggravated at times to an extent almost beyond endurance. We usually find when they first come to us that they have been taking phenacetine, acetanilid, or some derivative of coal tar, producing, as they do, cardiac depression, as shown by their blue finger nails and blue lips. This condition is relieved by giving a heart tonic, such as strychnine, digitalis, whiskey or strophanthus. Some of these women have been told that their headaches were produced by a retroverted uterus with its deep cervical laceration, or some pelvic lesion.

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* Read before the North Carolina Medical Society at Hot Springs, N. C., June 3, 1903.

Constipation, loaded colon, or intestinal dyspepsia are common causes of headache, and any of these may be dependent upon gynecological disorders, and to be successful in their management, the treatment must first be simply a medical one, or we fail to cure our patient. A loaded colon is much oftener found in our gynecological patients than is generally supposed, and a loaded colon that contains a large quantity of impacted feces can produce reflex symptoms in the nervous system, all the way from nervous irritability to insanity.

I will only mention the extremely common forms of headache arising from a lacerated perineum, this being purely a gynecological symptom, and the time-honored soreness on top of head, ridiculous as it may seem, is not without its significance relative to prolapsus and retroflection. We all know that in laceration of the perineum, the veins of the pelvis become distended because of their loss of support in the torn pelvic fascias. In this way, within the pelvis, is produced reflexly through the spinal cord and medulla, this form of occipital headache.

Corronal headaches are said to be of two kinds—those caused by the condition of the stomach and those arising from the condition of the pelvic organs. It is also said that the stomach is responsible for this form of headache oftener than pelvic disorders. The treatment will be easily suggested when we have found from which source the lesion arises.

Temporal headaches can be produced by almost any organ upon the side of the body where the cephalgia exists, but the most frequent cause is eye strain.

Frontal headache is usually from the stomach or from eye strain, and when determined which produces it the treatment is obvious.

General headaches depend upon general causes. In this class we find rheumatic, gouty, neuralgic and syphilitic headaches. The rheumatic is distinguished by its appearance on the falling of the barometer. The gouty is recognized by a deranged stomach and the accumulation of uric acid. The neuralgic is indicated by hyperesthesia. The distinguishing feature of the syphilitic headache is its nocturnal visitation. When we determine the causes of general headaches, the necessary remedies are easily selected.

The next thing offered by the nervous system is backache. Nearly all gynecological patients have backache, but as before stated all backaches are not gynecological, and we have to distinguish them to properly treat or cure them. Some writers on this subject state that all backaches in this class of patients are produced anatomically, not "topographically," in front of the seat of pain. In making the regional divisional of backaches we have the dorsal, the lumbar and the sacral. The dorsal backache in most cases depends on the stomach and liver. The sacral almost always finds its cause in the pelvic organs, and for its relief we have to consider the uterus tube and ovaries, and some times the rectum. The lumbar backache in a majority of cases depends on the bowels and kidneys.

Passing to the lungs, if we find our patient suffering from repeated attacks of bronchitis, we will have to meet and treat these before relief can be given. There is only one symptom under this division that I will especially mention, and that is the so-called "winter cough," so often found in our gynecological patients. This trouble is more often relieved by directing our attention to the kidneys than to the womb.

In considering the disturbance connected with the digestive system, we have gastric, intestinal and hepatic. The tendency of patients subject to inactivity is to take on hepatic disorders and disorders of the portal circulation, as a certain amount of daily exercise is necessary to preserve the integrity of the digestive organs, and the most common link in this chain of disorders is constipation and perversion of the excretion and secretion of the intestines.

According to physiology, the liver secretes from two to five pints of bile every twenty-four hours. We all know that in health there has never passed off from the bowels any such quantity. A quantity of bile is reabsorbed and re-excreted, passing through the portal circulation many times. In all cases of constipation there are absorbed certain amounts of excrement, and we thus have quantities of debris continually circulating through the liver, which leads to functional disorders of same, and finally results in dyspepsia; consequently we find that the beginning of all treatment for the cure of alimentary trouble in our gynecologic patients, should be a daily laxative.

There are two things connected with the disorders of the kidneys that are worth the attention of any gynecologist: First, is the too great abundance of uric acid which leads to grave functional lesions in the nervous system, joints and mucous membrane. Second, renal insufficiency, about which so much has been written of late years.

Most writers go so far as to say that they never consider a gynecological patient thoroughly examined until the amount of urinary solids she voids daily is ascertained; and while this is not practical with every physician, a very satisfactory state of the kidneys can be arrived at, and this knowledge is often of more importance to the patient than an existing metritis or menstrual derangement, for the reason that many pelvic troubles run back to this causation, and when this is the case a stimulating diuretic will relieve the trouble, thereby proving a close relation between the kidneys, womb and its appendages. This looks reasonable, since the kidneys, ovaries and tubes spring from the same source, embryologically, and it is a well known fact that patients suffering from organic diseases of the kidneys also suffer from irregular menstration.

As a means to an end in curing our gynecological patients this side of the surgeon's table, (and I have reference to that class of cases only that do not belong to the surgeon)—we must not forget that douches, rest, change of climate, diet, and local medical applications direct to the pelvic organs, are adjuncts, and each has a place in all cases coming to us for treatment. Rest and local applications are of inestimable value where they can be systematically carried out. Diet and change of climate, while good for all, can only apply to those more favored financially.

Passing now to the medical side of a surgical case of gynecology, we are confronted with a different state of affairs. Up to this point we have been dealing with remote symptoms, but now there is a mingling of the medical with the surgical side of gynecology. On this point I shall have but little to say, since the medical plays a minor role after the patient falls into the surgeon's hands. Still, there are some things that are strictly medical and conspire to the comfort of the patient. One of the best is vigorous application of ice to the abdomen. No matter how great the care taken, it sometimes happens that germs find their way into the wound, and a septic condition is set up; it may be localized, or it may be general, but there is no doubt that post-operative peritonitis may often be prevented or controlled, and its products and mortality correspondingly lessened by the proper use of ice. Theoretical objections have disappeared as we have become more familiar with its use. No injury to the skin has followed its use, and no depression of the general system has been observed. Pain, which is one of the most distressing symptoms after an abdominal or pelvic operation, becomes less annoying if ice is applied all over the abdomen. Ice should be used for its effect, just as calomel, salts or other remedies are. One bag on top of a thick dressing of cotton and gauze is of course without value. For the relief of traumatic pain, one or two ice bags over a thin gauze dressing usually suffice. But when a frank attack of peritonitis is feared, or actually exists, four or five bags of ice should be kept in place day and night. They should be separated from the skin only by a towel binder, or thin layer of gauze.

In conclusion, I hope to be excused for the brevity of the suggestions. This subject being a very broad one, the barest epitome is all that could be presented, and the very briefest at that.

There is too little consideration paid this subject of general medical treatment of this class of cases by our surgeons, and also by the general practitioner. I think our medical schools and medical journals are to a great extent responsible for the neglect of medical gynecology. In the medical schools and journals of this country, surgical technique is taught in all its refinement to the neglect of symptomatology, differential diagnosis and treatment of diseases of women amenable to medical remedies.

One writer says that the glamour of gynecological surgery has obscured the more commonplace, but equally important study of gynecological medicine. And he further states that he entered his protest against so many calling themselves gynecologists who plow only in one furrow of the field of gynecology, while the field itself is only a part of the domain of medicine and surgery.

Continued Fever, Neither Malarial nor Typhoid; a Clinical Study.

Dr. T. J. Happel, of Trenton, Tenn., read a paper with this title at the recent meeting of the American Medical Association. He said that the physicians in the North, as a rule, contended that every continued fever was either typhoid or malarial, whilst in the South many physicians were sure that they had to deal with a third fever, the mortality of which was so slight that that opportunities for post-mortem study had been so far nil. The blood and secretions had been examined microscopically and chemically with negative results. The blood did not respond to the Widal test, and it did not show the presence of the plasmodium malariæ. In a former paper he had referred to a number of such cases treated by him in the last ten years, all offering favorable opportunities for careful study at the bedside. He detailed six additional cases that he had treated since July last, making a total of about one hundred cases. He mentioned the points of difference from a clinical standpoint, and added that the bedside study taught plainly one thing and the work in the laboratory another. These cases were not ushered in abruptly by a chill, but they had usually, for a few days, prodromes of malaise, then rigors; sometimes a slight chill, followed by a slight rise in temperature, which did not attain its maximum for from three days to a week. Whilst this fever presented marked remissions for the first week, they were not so decided as in the second week, and were even more marked in the third week, amounting to intermissions with profuse sweatings. The chills, or cold rigors, were sometimes accompanied by aching of one set of muscles, and sometimes of all, resembling in that respect la grippe. After a day or two all pain ceased and the patient complained of nothing. The intermissions varied from one to four in twenty-four hours and could be made more marked by sponging with tepid water in all cases, by aconite and gelsemium in a few, and by the coal-tar derivatives in all of them. One of the most marked peculiarities of this fever was the disproportion between the pulse rate and the temperature. The ratio was frequently reversed, the pulse beating between the normal and ninety with a temperature of 103 to 105 deg., or even higher. The hand applied to the pulse and then to the forehead would lead one to say that the patient was free from fever when the thermometer in the axilla or mouth would reveal a high temperature.

A Brief History of the Therapy of Various Forms of Light and Radio-Therapy.

Winfield (*Brooklyn Med. Jour.*) reviews the history of the developments of light and radio-therapy, and reports personal experience. He arrives at the following conclusions:

1. It has been proven from time immemorial that the sun is a potent hygienic agent, and as medical science advances it is more and more evident that light and air are the great necessities of animal well-being.

2. That the various fads and theories regarding light were the stepping-stones to the more perfected methods and understanding of the therapeutic principles of light.

3. That in electric light we have a most valuable therapeutic agent in the amelioration and cure of many chronic and troublesome diseases.

4. That photo-therapy, the Finsen method, is of undoubted value, although limited in its usefulness.

5. Radio-therapy is more useful than photo-therapy, because of its wide and easy range of application. Its therapeutic power is so decided that it will continue to be a valuable aid in the treatment of many diseases.

6. This method is capable of producing untoward and grave symptoms. Although it is not necessary to produce an X-ray dermatitis for the cure of disease, yet this accident may occur. Each operator must be a guide unto himself, and no one should attempt to use the ray unless he is fully acquainted with all its possibilities and dangers.

7. That it is better in lupus than the Finsen method because of its simplicity.

8. That in radio-therapy we have a valuable weapon against all forms of cancer; but surgical procedure is preferable if the cancer is small and easy of access.

9. Personal experience and a careful review of the reliable literature on this subject prove that radio-therapy has an inhibitory effect on all malignant growths, and that it should be used in operable cancer and after removal by surgical means.

Southern Fevers.

Wm. Krauss, M. D., of Memphis, Tenn., read a paper on this subject at the New Orleans meeting of the American Medical Association. His conclusions were as follows: (1) A very sudden hyperpyrexia in mid-summer was more apt to be sunstroke than "congestion;" hence quinine should not be given without cause. (2) The malarial leucocyte count was only collateral evidence of malarial infection, and the count must include all the cells in the spread. (3) The Widal test might lead us into error in a small percentage of cases; the blood culture test was more difficult and had no negative value. (4) A chill or fulminant onset of a typhoid fever was not sufficient evidence of a complicating malaria. (5) A chill or sudden disturbance of a temperature curve during convalescence in typhoid fever was not necessarily malarial. (6) In a malarial infection, the persistence of an irregular sub-continuous fever after thorough cinchonization was not evidence of a typhoid complication or of remaining plasmodia. (7) A positive diagnosis of summer-fall fevers was not always possible. (8) In the hygienic management of summer-fall fevers we should presuppose a double infection, irrespective of symptoms. (9) Some of the summer-fall fevers were typhoid, some malarial, and a few of them were neither one, but the writer was opposed to the belief of an "thisce" fever.

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FEVER IN TYPHOID CASES.

During the past few years there has been a general following toward a more conservative or expectant method in the treatment or management of typhoid cases. Dr. H. A. Hare has well expressed this in a paper which he read before the New York Academy of Medicine, in Oct. 1902, (Therapeutic Gazette, Dec. 1902), when he said: "Would it not be a good motto if in every case of typhoid fever that the bed be labelled, 'Let the patient get well.'" The course pursued so earnestly a few years ago with the various anti-pyretics to keep or bring the fever near normal, has been found not only wanting, but an evil of indefinite power.

The Brand method of routine application of cold baths for the purpose of counteracting the effect, or lowering the fever, which for a while had a large following, is beginning to be much less resorted to. These two methods, used extensively in the treatment of typhoid cases, which for a while enjoyed a prominence quite flattering to their authors, are losing ground, the pendulum having counter-swung, and now there is dawning a disposition to pay little attention to the fever which occurs in typhoid cases, except to consider it as an index of the course of the disease in the individual. The fever being but a symptom, consequently does not appeal for treatment to be applied for its direct control or reduction.

That a moderately high and continued fever in this disease may be ignored, is becoming more and more recognized by thoughtful and observant individuals in the profession. The cold full bath to reduce or lower the temperature has become less and less of procedure and practice until it is now almost entirely abandoned, save in a few cases where the indications are quite defined. There is no one measure applicable of indiscriminate use in all forms of disease; neither can cold baths for fever in typhoid be thus used. It has been recognized that much injury has resulted from the severe effect of the cold bath from the shock to the system, besides the harm from the handling and effort on the part of the patient in carrying out the bath treatment.

It is a well-known fact that complete rest maintained from the very beginning of typhoid cases, and continued well into the period of convalescence, is a most important measure to be observed toward conserving the strength of the patient and preventing complications.

Dr. Lucian F. Salmon, in a paper, "The Rational Treatment of Typhoid Fever," (New Orleans Medical and Surgical Journal, June 1902), urges that too much attention should not be given to the temperature, and condems rough handling in the bath tub. Besides, in many cases, the effect of the cold bath and the shivering from its use stimulate the production of heat. The fever being the result of the pathological condition or process going on in the alimentary canal, the true plan is to depend upon the measures which go to lessening the progress of the diseased part.

That a cool, or cold, bath may be used to an advantage at times, is a fact; but it must be administered only when such a procedure is demanded and indicated; and such will not occur as routine in any case. The warm or tepid bath will prove to be a much more beneficial course for the patient, besides being more agreeable in its application.

Hershfeld, quoted by Dr. Hare in the paper already cited, points out that by the use of these (warm) baths the patient is not alarmed, and his heart is not subject to great changes in arterial resistance. Again "such baths can be used in children, in the aged, in advanced stages of the disease, where reaction to the cold bath is not possible."

Only in especially indicated cases where the fever causes the patient to be restless or unduly affected thereby, a tepid bath would be indicated, and would afford much advantage to the patient in the reduction of the fever and otherwise. Rest and quiet will be a matter well worth the consideration of the physician and a great gain to the patient, reserving the cold bath only for bold treatment when it is strictly a necessity.

A NEW CURE FOR NERVOUSNESS.

An eminent foreign author has announced in an extended article what appears to him to be a new remedy for nervousness. He has found that the perfume of roses acts as a medicine upon the nerves. The more highly cultivated the plant in color, vigor and shape, as well as odor, the more powerful its effect. He believes that deep red colors are more quieting, the odor is also essential. Other flowers with strong, heavy odors cause languor. The rose which has a less pungent odor is invigorating—quantities of rose leaves are confined in air tight boxes. The patient who has headache or is nervous removes the lid and breathes the air loaded with the odors and soon feels better and goes to sleep.

Another authority believes that roses exhale a narcotic principle directly from the bottom of the flower, and if the head is brought in close proximity to it more of this narcotic odor is enhaled than at a distance. He would cut long stems of roses, have their bottoms in water and the flowers brought up close to the mouth.

Another authority believes that a pillow of roses, on which the head may rest, is sufficient to produce a medicinal effect. This author believes that a combination of roses is bad, but that one color is very soothing. A very minute description is given of the effects of the rose through the sight, and how it acts to allay the disturbance of the nervous system. Cases are given where persons undergoing a severe nervous strain were quieted down and made to sleep by a few moments of deep inhalation from a mass of roses held to the face.

Many nervous persons have a passionate fondness for roses, and seem to be made happier by their presence. A noted New York surgeon after a severe day's work would spend a long time in a hot house, and take home with him bunches of odorous roses, having them on his office table and in his room. Another surgeon, now dead, always wore a large rose in his coat. Both of these men, without giving any reasons, believed that the roses were soothing and helped them in some ways.

It is quite evident that these statements are not all fancies, but depend on some facts not yet known, whether they are mental or physical, or both, it is difficult to determine. No doubt many of the neurotic systems which suffer from headache or nervousness are helped through stimulation of the sense of smell as well as that of sight.

DIET IN CANCER OF THE STOMACH.

Some very late authorities have given minute directions on this important matter, and the following gives a summary of a very large volume discussing this condition. The weakened motility or nutritive power is always a conspicuous feature of advanced gastric carcinoma, and this calls imperatively for small and relatively frequent feedings with the blandest and most easily digestible nourishment. In all probability in a large majority of cases good fresh milk in some of its forms or preparations will agree best, and will need to be prominent among the nutrients depended upon. Usually plain sterilized or boiled milk with one-twelfth to one-fourth part lime water, according to the degree of irritability, is as suitable as any form, if digestives are given after the meals, but sometimes it agrees much better when predigested or peptonized.

Other excellent foods for aggravated cases are the whites of eggs beaten up in water; well-cooked gruels peptonized, or not, as found necessary; whey, kumiss, gelatine, the juice pressed out of lightly broiled steak, and vegetables. Any of the liquid foods may be thickened by the addition of beef powder. The various proprietary foods, both the albuminous and non-albuminous kinds, will often suit well and will help to afford variety, in the worst cases especially.

In the earlier stages, and in those with less irritability and more digestive power, stale bread, or toast and butter, biscuits, fish, oysters, hashed lean meat, soft-boiled or poached eggs, thoroughly-cooked cereals (the finer kinds) with milk and cream, and even the blander vegetables in which the starch has been well dextrinized by cooking, may be allowed, but all these should be finely divided before eaten.

As to beverages, the previous habits of the patient will often decide. Tea and coffee—unless they specially disturb the stomach—should not be denied to patients who have been accustomed to them, though they should be taken without sugar whenever fermentation is very troublesome. The richer chocolates will almost certainly disagree, and often the choicest cocoa, though these are all highly nourishing. An infusion of cocoa shells is more suitable, and there is no objection to the cereal coffees sweetened with saccharine. Sugar, being the most fermentable of all foods, should generally be avoided.

As the disease advances, and the ability of the stomach to empty itself lessens more and more, the amount of the liquids taken by the mouth will have to be diminished—especially the amount taken at a time. It will seldom be well to allow more than half a pint of liquid at any one time in this way, and much less in far advanced cases. Towards the last the demand of the system for liquids may have to be met in part by injecting water into the bowels, and the feeding in the later stages may be supplemented by nutrient enemas.

PRESENT STATE OF ANTI-TETANIC SERUM.

With the very satisfactory results from vaccination in controlling small-pox, and from the happy effect in reducing the mortality of diphtheria by the rational and well-applied use of anti-toxine, there has developed an enthusiastic disposition to study to devise or secure a serum remedy for the various infectious diseases to which man is affected. Much labor has been expended in various laboratories in preparing and perfecting a suitable lymph or serum remedy, to cover or oppose the effect of the forms of infectious diseases.

A great deal of effort has been expended in devising a serum substance which will have the power to offset or counteract the germs of the dreaded disease—Tetanus. So far the results from the experiments and labor have been largely, if not entirely, disappointing.

The literature and notes of experiments during the past year, in cases of this disease, are by no means assuring under the present conditions, as the results of the effect from the use of any such serum remedy in this disease. In nearly every case where any apparent success was obtained, it has occurred in cases which developed after the seventh day, dating from the receipt of the wound. The prognosis under such conditions is usually much more favorable of recovery than when the tetanic conditions make their onset before the seventh day, or during the first week. Whether there is any decrease in the mortality rate by the use of anti-tetanic serum, even of such of the more promising forms of the disease, a thorough examination of the statistics bearing on such practice or use, compared with results where the serum has not been used, will fairly well prove its power for good or show its failure.

It has been urged that only by the use of the serum before the tetanic conditions appear can real success be attained. That might be possible; and while it would be quite difficult in many cases, and require a very exact diagnosis, yet it is a phase of the problem that should receive very earnest study and investigation. In every case where there is a positive assurance of danger of tetanus developing, anti-tetanic serum should be carefully used and minutely watched and the effects noted and published, that the profession may profit thereby.

Such studies should be carefully carried out in those cases only in which there is at least, in a measure, some definite proof or assurance that tetanus would develop, or the statistics would again be of very little value, since many entirely innocent or otherwise safe cases would be treated by the serum method when no danger of tetanus existed.

How such proof of innocence in the one case or danger in the other can be recognized, is a problem that needs to be worked out. Its solution is important, and some one will no doubt discover the conditions indicating the infected wound and the absence of the germs in the innocent wound. When such has been accomplished then will the probabilities of an anti-tetanus serum or cure be made more possible and the methods and application more definite.

M. Vallas, (Gazette Hebdomidare de medicine et de Chirurgie, Oct. 15, 1902), (New York Medical Journal, Nov. 8, 1902) in an elaborate review of the treatment of tetanus, concludes that serum therapy possesses a certain prophylactic action if it is systematically applied. In his consideration it bears only value if used before the development of the tetanic conditions. He further says: "However in cases of slow course, while it may not actually be curative, it may aid the organism in its effort toward recovery."

Packard & Williams, American Journal of the Medical Sciences, Dec. 1902. "The Present Status of Serum Therapy." Regarding anti-tetanus serum they conclude that it is a valuable means of treatment, though by no means curative in all cases. It is only by a consideration of a large number of cases that its real value is discovered, and its influence appears to be appreciable mostly in cases of sub-acute and chronic types, the mortality in acute cases being less affected.

THE "CHRISTIAN HOSPITAL" SO-CALLED.

Another scheme has been inaugurated and the mails loaded with circulars and letters addressed to physicians throughout the United States intended to relieve them of some of their superfluous (?) dollars. The "Christian Hospital" was recently devised and launched in Chicago. With a great flourish their circulars and letters offer an appointment to physicians, it matters not where they reside, as members of the "Hospital Staff," not upon the examination and proof of the fitness of the applicant, but upon receipt of certain sums of good and legal U. S. money, according as the individual desires to invest—$15.00 for Royal linen paper; $20.00 imitation parchment, and $25.00 for genuine sheepskin. These certificates of appointments are somewhat on the style of a college diploma. The whole purpose is not to practice in the "Hospital" but to hang the certificate on the office walls of the purchaser to fool the people who patronize the appointee, (?) to bring in "Dollars for Doctors." According to investigation by the Journal of the American Medical Association, various of the names on the letter heads and circulars of this concern are those which figured in the recently exposed "St. Luke's Hospital" and diploma mill of Michigan, which was compelled to close its doors, if there were any doors, in 1901.

A number of the names of physicians of Chicago and elsewhere have been used on the circulars without the consent of the individuals, as per the following letter of Dr. Murphy, of Chicago, (published in Journal

A. M. Association) whose name was used:

Chicago, Ill., May 19, 1903.

To the Editor:

I received your letter to-day with the literature from the "Christian Hospital" enclosed. I would say that your letter was one of hundreds which I have received, containing the same kind of literature. As far as I am able to determine, all of the States west of the Mississippi have been flooded with the publications of the "Christian Hospital." I would say, further, that my name was used without either my knowledge or consent, and that this literature was sent out during my absence from the city. I do not know, and never have seen, to my knowledge, a single man whose name is mentioned in the list of the "Staff." I see in there a number of the names which were used in a scheme similar to this one in connection with the St. Luke's Hospital, Niles, Michigan, where Dr. Senns' name was used, and also one in which the name of Dr. E. O. Kinsman, of Cambridge, Mass., was used in a similar way.

J. B. Murphy.

The Journal of the American Medical Association has recently exposed this concern, and the Medico-legal Committee of the Chicago (Cook County) Medical Society make, in the Journal of June 6th, a thorough report and exposure of the scheme. The parties interested in conducting the fraud seem to be Drs. Probert, N. E. Wood and Granville, who also figured in the Michigan fraud—the two former have been arrested for improper use of the U. S. mails. It appears that Probert has served a term in the Wisconsin penitentiary, and Granville, according to the Chicago Record-Herald for 1899, contains a telegram from New Carlisle, Ind., announcing his arrest for bigamy, specifying five wives.

The whole purpose held out by the parties as an inducement to buy these certificates—"more important than any diploma, as it indicates higher attainments," quoting their expression, are unethical, illegitimate and vicious. There is no sympathy for any physician who may be gulled by such loud schemes as this one. The fact that reputable names of physicians have been illegally used on these circulars, some persons may be induced, and some have been, to become purchasers of this infamous trash.

It is hoped that no subscriber or reader of the Charlotte Medical Journal may become a victim of these impostors. There is no doubt but that the crop of gulled individuals is comparatively large, since the mails of every physician is continually well filled with circulars and letters regarding schemes of some kind. And enough encouragement undoubtedly abounds which lead men to undertake to prosecute such questionable and risky enterprises. Were there no replies with generous remittance the circulars would soon cease. The Medico-legal committee of the Cook County Society, Drs. W. A. Evans, Harold N. Moyer and C. T. Bacon, deserve the thanks of the profession of the whole country for their investigation and report.

DISEASES DUE TO AUTOMOBILES.

Although we have just begun to use these new motor wagons, there are already evidences that many diseases will be provoked and can be traced directly to this mode of locomotion. Doctors who have used these wagons extensively already realize that catarrh, bronchitis, with various ear troubles, are common results following the use of these wagons. Pleasure seekers who use these wagons at high speed are obliged to wear goggles, veils, gloves, and rubber coats, and not only suffer from affections of the eye and ear, but have local neuralgia. The high speed and temptation to take risks on a good road, and break the record for skill and time, develops a nerve tension which is very exhausting. A physician owning a very large machine, who insists on doing his own driving, found that he suffered from unusual exhaustion at the end of the day's work. In reality, while guiding the machine his mind was in a state of constant tension to the sounds of the machine and the efforts to avoid obstacles in the way and keep control of the lever. There was the unconscious fear of something unexpected occurring at every turn of the road. The tension was, in reality, more severe than that of a locomotive engineer who had a straight track and the wheels guarded from leaving the rails. The drivers of these machines are already appearing as patients for troubles which are due to the strong currents of air and dust which surround him, and the constant nerve tension and muscular strain to adapt himself to the circumstances. It is to be expected that in the future these evils will increase and the disease which follow will be more prominent.

DANGER FROM COLD WATER.

Some laboratory researches show that water which has stood in a badly ventilated sleeping chamber all night is injurious, from the fact that it absorbs many of the poisonous gasses given off by respiration and from the skin. At the temperature of sixty an ordinary pitcher of water standing in the bed room all night has been found to absorb nearly two pints of carbonic acid gas, and to show a great increase in the quantity of ammonia. Ice water in the bed room, particularly where the temperature is low, absorbs large quantities of bacteria and other poisonous substances, hence a pitcher of ice water at night to be drank next morning is dangerous. It is said that the colder the liquid the greater its capacity for absorbing impurities. In typhoid fevers water should come directly from the well, or from some place where the possibility of absorbing bacteria is very small. It is new to most persons that cold water is more dangerous than hot water, for its absorbing qualities. We evidently have much to learn in this direction, and why water is one of the most universal of all remedies. It has its dangers and perils which a physician should recognize.

Book Notices.

Progressive Medicine. Fifth Annual Series. Vol. II, June 1903. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M. D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Octavo, handsomely bound in cloth, 427 pages, with 46 illustrations. Per volume, $2.50, by express prepaid. Per annum, in four cloth-bound volumes, $10.00. Lea Bros. & Co., Publishers, Philadelphia and New York.

A glace through this volume will suffice to show the reader the fatuity of attempting to keep up with the progress of scientific medicine unless he can avail himself of such a work. The enormous amount of material which it contains is the more astonishing when it is realized that it represents only what is of real, recognized scientific and practical value in current medical literature, and not simply a mass of abstracts of articles which have appeared in magazines. Each of the contributions possesses features which render it especially valuable to every medical man. The timeliness of the article by Dr. Wm. B. Coley, on the "Surgery of the Abdomen, including Hernia," cannot be overestimated. The vast importance which attaches to the proper diagnosis and treatment of diseases of the pancreas and liver, especially in view of the recently-perfected operative measures for their relief, has only of late been fully realized, and many obscure digestive disorders, which have hitherto been regarded as of gastric or intestinal origin, are now ascribed to diseases of the pancreas or its ducts; and many diseases of the liver and gall, bladder and ducts, which have hitherto been considered as practically fatal in their outcome, are known to yield readily to operative interference.

The discussion of the operative treatment of hernia shows how the radical cure of that affection has been placed upon a scientific basis, and the description of the various operative measures for that purpose is of great value.

Dr. Clark begins the section on Gynecology with a thorough discussion of all the various phases of cancer of the uterus—its etiology, clinical manifestation and treatment. He takes up successively the various affections of the abdominal and pelvic viscera, describing fully their diagnosis and treatment. Among the interesting points discussed is the relation of diseases of the vermiform appendix to pathological conditions of other abdominal or pelvic organs.

Dr. Stengel's section on Diseases of the Blood includes also morbid conditions of the ductless glands and disordrs of metabolism. As of especial interest, we would call attention to the discussion of the effect of various poisons upon the constitution of the blood, and of the changes of the blood in infectious diseases. Great progress continues to be made in the study of the physiology and pathology, as well as the therapeutic uses of the ductless glands, and no physician can afford to undervalue a knowledge of the peculiar manifestations resulting from the morbid alterations of matabolism.

The section of Ophthalmology, edited by Dr. Edward Jackson, is, as usual, noteworthy for the practical value which it possesses, not only for the ophthalmologist, but for every physician. The very fact that the study of the eye is so essentially a special branch of medical knowledge renders it particularly necessary that the medical man who does not follow Ophthalmology as his line of work should be given the opportunity to acquaint himself with those parts of Ophthalmology, a knowledge of which is indispensable to all. Thus the subjects of toxic amblyopia, cerebral tumors, foreign bodies in the eye, and other wounds and injuries of the eye, fall more or less within the province of most physicians. An especially interesting part of Dr. Jackson's section is that which deals with the estimation of damage from ocular injury or disease in its medico-legal aspects, and as it bears upon insurance benefits and pensions.

The volume is copiously illustrated throughout, and the excellent arrangement of its material, together with a full index, render it most convenient for reference.

A System of Physiological Therapeutics. A Practical Exposition of the Methods, Other than Drug Giving, Useful for the Prevention of Disease and in the Treatment of the Sick—edited by the Solomon Solis Cohen, A. M., M. D. Vol. X—Pneumotherapy, including Aerotherapy and Inhalation Methods and Therapy, by Dr. Paul Louis Tissier. P. Blakiston's Son & Co., 1012 Walnut street, Philadelphia, Pa.

The aim of this system being to have each therapeutic method described by one whose training and experience have best fitted him for the task, a French clinician has been chosen as the author of this work. That this choice has been a good one is amply proven by the masterly manner in which the subject is handled and the clearness and attention to detail that is a characteristic of the work. The book could not have been written by one not thoroughly familiar with the subject in all its phases.

Pneumotherapy is a comparative new field to a large majority of physicians, a fact that renders the complete and minute description of the various methods by no means unnecessary. The work of various experimenters is given in detail, and where their results are not in accord an explanation of the diverse conditions under which they were attained is made.

The first part of the book gives an exhaustive description of the use of air as a therapeutic agent, whether under normal conditions or modified in composition and temperature, together with the various methods and appliances and the indications and contraindications for their application. This is followed by a description of inhalation methods, being the use by inhalation of various medicaments—gases, fumes, vapors, nebulized liquids and powders. Especially interesting is that of Inhalation of Mineral Waters at their Source.

A careful study of this latter portion of the book will make very evident the fact that while complicated and expensive apparatus may be a convenience, yet a little consideration plus some mechanical ingenuity will bring us within reach of many valuable methods heretofore but little considered.

A Treatise on Massage. By Douglass Graham, M. D. Third edition, revised, enlarged and illustrated. 8vo. pp. 462 with 63 illustrations. Philadelphia: J. B. Lippincott Company. 1902.

This new edition of Dr. Graham's well-known treatise is one-third larger than the previous edition. Eight new chapters have been added, and the former chapters have been considerably revised. The new chapters discuss the neurone theory in its possible relation to massage, with especial reference to the hypothesis that the neurones possess powers of contraction, and also treat of the application of massage in various joint affections, cardiac and pulmonary diseases, Raynaud's disease and spinal curvature. The book is so well known to all interested in massage that we need only add that the present edition has been made much more valuable than the previous editions. It is the best book of the kind that has ever been published in the English language.

Surgical Asepsis.—Especially Adapted to Operations in the Home of the Patient. By Henry B. Palmer, M. D., Consulting Surgeon to the Central Maine General Hospital. Ninety illustrations. Page VI—231. Size, large 12mo. Extra cloth. Price $1.25 net, delivered. Philadelphia. F. A. Davis Company, Publishers. 1914 and 1916 Cherry street.

The aims of this book are to demonstrate that surgical work may be safely performed in the home of the patient, and to detail the methods the writer has found best to secure such a result. The methods described embody the principles commonly accepted, modified in the manner found most convenient for house-to-house. It has been written especially for those surgeons who operate often outside the hospital, and for the general practitioner who may do some surgery, or has the after-care of surgical cases. It is throughout complete as well as practical.

"Analysis of the Sexual Impulse—Love and Pain—The Sexual Impulse in Women." By Havelock Ellis, L. S. A. (England); Fellow of the Medico-legal Society of New York, and Anthropological Society of Berlin; Honorary Fellow of the Chicago Academy of Medicine, etc.; General Editor of the Contemporary Science series since 1899. Extra cloth $2.00 net, delivered. Sold only to physicians, lawyers, clergymen, advanced teachers and scientists. Philadelphia, Pa. F. A. Davis Company, Publishers, 1914-16 Cherry street. 1903.

This is the third volume of the series, "Studies in the Psychology of Sex," which is being written by Mr. Ellis. Like the preceding volumes, it is an attempt to throw light upon various sexual problems which are not thoroughly understood. The introductory chapter is an "Analysis of the Sexual Impulse;" here the author takes up the various theories and examines them carefully, studying the impulse in animals and man, the questian of courtship; dancing and its relation to sexual desire, etc. He arrives at definite conclusions of great interest. In the chaptet on "Love and Pain," he inquires into combativity and cruelty as sexual factors, and gives an interesting account of sadism and masochism, with sketches of the men who gave the names to those forms of sexual perversion. "The Sexual Impulse in Women" is the subject of another study contained in the book, and like the others it is treated in a scientific spirit. In the appendix are taken up "The Sexual Instinct of Savages" and "The Development of the Sexual Instinct." The book is not for general reading, but for men of trained minds opens up a field of great scientific interest and importance.

The Practical Application of the Rontgen Rays in Therapeutics and Diagnosis. By William Allen Pusey, A. M., M. D., Professor of Dermatology in the University of Illinois; and Eugene W. Caldwell, B. S., Director of the Edward N. Gibbs X-Ray Memorial Laboratory of the University and Bellevue Hospital Medical College, New York. Handsome octavo volume of 591 pages, with 180 illustrations, nearly all clinical. W. B. Saunders & Co., 1903. Cloth $4.50 net; Sheep or Half Morocco, $5.50 net.

It has been the aim of the authors of this work to elucidate fully the practical aspects of the subject. It is evident that all the authentic literature which has developed since Rontgen's wonderful discovery has been carefully diagnosed, this being supplemented by the extensive experience of the authors. The value of the X-rays in diagnosis has been discussed in a thoroughly practical manner, and their limitations in this field indicated. Particular attention has been devoted to the use of the X-rays in therapeutics. Nearly all the illustrations in this section represent actual clinical subjects, and show with unusual fidelity the condition before the use of the X-rays, at various stages of their application, and, finally, the therapeutic results obtained. Full details are also given as to the use and management of the apparatus necessary for X-ray work. All the methods with which the best results have been achieved have been carefully described in a comprehensive way. There are chapters on X-Ray Tubes, Induction Coils and Controlling Apparatus, Static Machines, Fluoroscopy, Radiography, Photographic Materials used in Radiography, etc. This section is also fully illustrated with instructive photograghs and drawings of the apparatus, including four beautiful full-paged colored plates of X-ray tubes. In fact, the work will be found of invaluable assistance, not only to the general practitioner, but also to the dermatologist, presenting, as it does, the very latest advances in X-ray therapeutics and diagnosis.

A Manual of Special Treatment. By W. Watson Cheyne, M. B., F. R. C. S., F. R. S., Professor of Surgery in King's College, London, Surgeon to King's College Hospital, etc., and F. F. Burghard, M. D. and M. S. (Lond.) F. R. C. S., Teacher of Practical Surgery in King's College, London, Surgeon to King's College Hospital, etc. Complete work now ready. In seven imperial octavo volumes, with illustrations. Vol. VII, 595 pages, with 113 illustrations, cloth, $5.75 *net*. Lea Brothers & Co., Philadelphia and New York, 1903.

This volume completes the most practical work on Surgery that has ever been written. It is a work which no physician can afford to do without, be he surgeon, specialist or general practitioner. It is devoted exclusively to treatment, and space is therefore found for precise descriptions of every detail necessary to success, including preparation, operation and after treatment. The authors, who by reason of their long and varied experience and faithful study, are entitled to the fullest confidence, give unreservedly of their knowledge, and, moreover, every phase of their great subject is treated with such attention to details, and in terms of such clearness, that if their instructions are followed the most satisfactory results possible must be attained.

The complete work comprises about 3,000 pages, with nearly 1,000 illustrations, and for greater convenience is bound in seven handy volumes. The present volume is devoted to the treatment of the Surgical Affections of the Rectum, Liver, Pancreas and Spine, the Genito-Urinary Organs, the Breast and the Thorax.

Zapffe's Bacteriology. A Manual of Bacteriology for Students and Physicians. By Fred. C. Zapffe, M. D., Professor of Histology in the College of Physicians, and Professor of Pathology, Bacteriology and Hygiene in the Illinois Medical College, Chicago. In one 12mo. volume of 350 pages, with 150 engravings and 7 full-page colored plates. Cloth, $1.50 net; flexible leather, $2.00, net. Lea's Series of Pocket Text-Books, edited by Bern B. Gallaudet, M. D.

Professor Zapffe's compendious manual covers the theoretical and clinical aspects of Bacteriology in a manner answering the needs of general practitioners as well as of students. He accomplishes this by eliminating unnecessary discussions. Starting at the very beginning he carries his reader systematically up to the point of gaining a full and comprehensive view, not only of Bacteriology, but also of its practical relation to medicine. The whole trend of the book is distinctly clinical—the proper object for a work designed to be of service to medical students and graduates. A course of practical laboratory exercises is likewise included in this singularly comprehensive volume.

A Text-Book of Chemistry.—For Students of Medicine, Pharmacy and Dentistry. By Edward Curtis Hill, M. S., M. D., Medical Analyst and Microscopist; Professor of Chemistry and Metallurgy in the Colorado College of Dental Surgery; Professor of Chemistry and Toxicology in the Denver and Gross College of Medicine, University of Denver. With 78 Illustrations, including 9 full-page, half tone Colored Plates. Pages XII—525. Crown Octavo. Extra cloth, $5.00 net, delivered. Philadelphia. F. A. Davis Company, Publishers, 1914–16 Cherry Street.

Lecturing for ten years in medical and dental schools has given the author of this work a most excellent opportunity of compiling and preparing a most satisfactory work for the student. The facts are made more than usually clear, readily to be understood, and the methods are eminently practical. The free use of formulas throughout the text will serve to familiarize the student with chemical nomenclature and notation. Students of Medicine, Pharmacy and Dentistry will find it especially valuable and helpful in obtaining a correct knowledge of this important branch of technical learning.

A Text-Book of Modern Materia Medica and Therapeutics. By A. A. Stevens, A. M., M. D., Lecturer on Physical Diagnosis in the University of Pennsylvania; Physician to the Episcopal and St. Agnes Hospital, Philadelphia. Third edition, greatly enlarged, rewritten, and reset. Handsome octavo of 663 pages. W. B. Saunders & Co., 1903. Cloth, $3.50 net.

Since the appearance of the last edition of this book such rapid advances have been made in materia medica, therapeutics, and the allied sciences, that the author has wisely rewritten the entire work. He has altered the general plan of the book considerably, and instead of considering the drugs in alphabetical order, as in the previous editions, he has classified them according to their pharmacologic action. This arrangement, notwithstanding the present unsettled state of pharmacology, possesses certain advantages in that it aids the student to correlate established facts, and to apply them more readily to the treatment of disease.

The part devoted to Therapeutics has evidently undergone a thorough revision; and we note that all the newer remedies which have been shown by competent observers to possess real merit and to be worthy of a more extended trial at the hands of the profession, have been considered. Indeed, the work is in every particular thorough and accurate, and its title, Modern Materia Medica and Therapeutics, is fully justified. We heartily commend the work to students and practitioners.

A Reference Handbook of the Medical Sciences by various writers. New edition. Edited by Albert H. Buck, M. D. Volume VI. Imp. Quarto. 1012 pages. 764 Engravings. Nine full page Plates in Black and Colors. William Wood & Co., New York.

Volume six is the mammoth of the series thus far, containing 1004 pages of reading matter, not counting numerous explanations of plates. Notwithstanding the enormous additional expense to the publishers, it was decided to make this of the present size, because a smaller volume could not have compassed all the very excellent articles which should properly have been included. The subscribers profit proportionately.

It is hardly possible to select for separate mention any particular articles, the contents of the book is of so high a standard. One might, however, mention the articles on Muscles, by Prof. Simon H. Gage, Lydia M. Dewitt and Francis J. Shephard; on Nasal Cavities, by Robert C. Myles; on Parasites, by Henry B. Ward; on the Nervous System, by Pearce Bailey, James J. Putnam, Wm. M. Leszynsky and Lewellys F. Barker; on Opthalmological topics, by John Green and Beaumont Small; on Ovariotomy, by Hunter Robb; on the Ovum, by Robert P. Bigelow; on the Pelvis, by Frank Baker; on the Pharynx, by Seth Scott Bishoc; on Pleurisy, by Frank W. Jackson; on Pneumonia, by Andrew H. Smith; on Poisonous Plants, by Henry H. Bushby; on Poisonous Reptiles, by Gustav Langmann; on Poisons, by Charles Harrington and R. H. C. Chittenden; on the Prostate, by Arthur T. and Hugh Cabot; on Ptomains, by Rudolph A. Witthaus; on the Pulse, by Wm. S. Morrow, on Reflexes, by Joseph Fraenkel; on Reparative Surgery, by Joseph Ransohoff; on Resection of Joints, by Frank Hartley, and on Roentgen Rays, by Wm. C. Borden. This volume contains 764 engravings and nine inset plates in black and colors. There is no system of medicine now in print so complete, so thorough and so scientific as this Reference Handbook.

The Practical Medicine Series of Year-Books. Vol. V: Obstetrics. Edited by Reuben Peterson, Professor of Obstetrics, University of Michigan. Chicago. The Year-Book Publishers.

The last number of this excellent series is a volume on Obstetrics by Prof. Peterson. Progress in the obstetrical art is admirably summed up. The present volume is one of a series of tenwhich are published at intervals, and which together cover the whole field of medicine and surgery. They form an admirable method of keeping the general practitioner abreast of the times.

The Essentials of Modern Materia Medica and Therapeutics. By John W. Fife. Published by Scudder Bros., Cincinnati.

We take pleasure in reviewing this compact little work. It contains a very correct summary of the symptomatology of our remedies as observed by our best writers. The doctor has gathered the facts concerning each remedy with much care, and has arranged them systematically and practically. In the brief statement outlined for each remedy there is not room to enlarge upon the general application of the drug which many desire, and yet most of the indications are there. It requires skill to tell a good deal in a few words. The author preserves the classification of the older writers. The book will be found most available for reference when the indications for a remedy are desired. The book is well written and will be well received.

International Clinics. A Quarterly of Illustrated Clinical Lectures and Especially Prepared Original Articles on Treatment, Medicine, Surgery, Neurology, Pediatrics, Obstetrics, Gynecology, Orthopedics, Etc. Edited by A. O. J. Kelly, A. M., M. D., of Philadelphia. With the collaboration of Wm. M. Osler, M. D., Baltimore; John H. Musser, M. D., Philadelphia; Jas. Stewart, M. D., Montreal; John B. Murphy, M. D., Chicago; Thos. M. Rotch, M. D., Boston; Jno. G. Clark, M. D., Philadelphia; James J. Walsh, M. D., New York; J. W. Ballantyne, M. D., Edinburgh; John Harold, M. D., London; Edmund Landolt, Paris; Richard Kretz, M. D., Vienna, with regular correspondents in Montreal, London, Paris, Berlin, Vienna, Leipsic, Brussels, and Carlsbad. Vol. I. Thirteenth Series, 1903. Pages 300. Price, cloth, $2.00 net. J. B. Lippincott Co., Publishers, Philadelphia, 1903.

A change is noted in the editorial force of this valuable medical periodical, which comes a trifle late this year. Dr. Kelly succeeds Dr. Henry W. Cattell as editor, and he has associated with him as new collaborators, Osler, Musser, James Stewart, John G. Clark and Richard Kretz, of Vienna. The style and manner of the book are unchanged, and it is as usual an invaluable guide to the busy practitioner as may be necessary. There are several who like to keep abreast of the times with as little reading as may be necessary. There are several of these periodical publications in medicine, all with the same general aim, and this series is one of the best we know. The editors are authorities on the subjects on which they have been selected to write, and their writings have been well illustrated and published. All branches of medicine and surgery, including the important specialties, are handled in a comprehensive but compact style, and the book makes what Horace Greely would have called "mighty interesting reading."

The July number of the series has some especially good things promised for it. The low price of the books is greatly in their favor, and last year the series was greatly oversubscribed.

Miscellaneous.

Sanmetto as a Genito-Urinary Tonic and Remedy.

I have presscribed Sanmetto in a number of cases of incontinence of urine, with gratifying results. I believe it to be a remedy par excellence in all cases of genito-urinary complaints. I have reason to believe that Sanmetto possesses aphrodisiac properties equaled by few remedies at our command. —G. C. Snyder, M. D., Moxahala, O.

Sanmetto Endorsed as the Most Valuable Remedy in Kidney, Bladder and Urethral Affections.

Sanmetto is a valuable preparation. Indeed, I have found it one of the most valuable remedies in the treatment of gonorrhea and all kidney and bladder affections, either acute or chronic, and can endorse same to the profession.—Chas. E. Barmm, M. D., Indianapolis, Ind.

Dionin in Ophthalmology.

Dr. M. Marquez has used dionin topically in forty-four cases of eye disease, in which pain was a marked manifestation. Summarizing its therapeutic value and mode of application, the author considers it of undoubted value in combatting pain as a symptom, but not to be depended upon as a curative agent, and its use is to be stopped as soon as pain subsides. It is best administered in solutions of ½ to 5 per cent. —it is entirely compatible with the various mydriatics and myotics, and with cocaine, but not with adrenalin. It may be used with mercuric solutions less than 1.2000 in strength.—Arch. de Ophthalm, 1903, No. 3.

According to Dr. N. Nimi. dionin is one of the most important remedies in ophthalmologic practice, and is especially valuable in (1) vascular trachomatous pannus; (2) in parenchymatous keratitis; in the acute vascular stage, when atropine manifests its mydriatic action insufficiently, as well as in the declining stage to clear up the cornea; and (c) in iritis. One case is described at length, showing the remarkable effect of dionin. A woman had pannus trachomatosus vasculosis totalis of both eyes, and could only discern manual movements made in close proximity to the eyes. After futile treatment for ten days, a 4 per cent. solution of dionin was dropped into the eyes five times daily. The next day the power of vision had already improved to such an extent that the patient could for the first time recognize the face of a friend before her; and a corresponding improvement took place as regards the disappearance of the newly formed vessels and the opacity. After a week, painting with 10 per cent. copper sulphate solution was instituted alongside of the dionin instillations, which were then made thrice daily. Six weeks later the patient was discharged, with the power of vision 20.200.—Ophthalm, Klin., 1903, No. 8.

Euquinine and Its Therapeutic Value.

Dr. D. Jose Ferrua asserts that chlorosis has a dual pathology; associated with the simple anemia is a toxic element, the origin of which must be looked for in the ovarian apparatus. No single remedy will benefit this condition; the best results are obtained by a combination of drugs. The author recommends particularly euquinine combined with preparations of iron, arsenic, and phosphorus. Euquinine, the author says, possesses a double action: (1) an anti-bacterial, specific action which it possesses in common with other quinine salts, without, however, sharing their cinchinism; and (2) it exerts a marked tonic effect on the nervous cell, which makes it so useful in neurasthenic conditions, cephalagia, migraine, etc. The author emphasizes that euquinine is superior to the other salts of quinine because it may be given for long periods without the fear of any by-effects. Strychnine, if given with caution, is also very useful. As the author says, there is no other agent so sure and so instantaneous in lighting up the vital lamp, when it is ready to be extinguished. The author reports a severe case of chloroanemia, in which treatment as outlined above gave brilliant results. For the nervous vomiting, anorexia, heaviness in the stomach, etc., validol in 20 drop doses was administered. —Gaceta med. de Granado, 1902, No. 454.

Dr. E. Sylvain, of Port-au-Prince, has used euquinine in cases of malarial infection, broncho-pneumonia, pulmonary tuberculosis, typho-malarial fever, influenza, biliary lithiasis, whooping cough and measles, occurring in 60 adults and 50 children. He considers it a very valuable medicament. His observations are summarized as follows: The febrifuge action of euquinine, given in doses of 1 to 2.5 Gm. (15 to 38 grn.) in tuberculosis, influenza, typho-malarial fever biliary lithiasis, black vomit, whooping cough, and measles is superior, as regards rapidity, intensity, and duration, to that of ordinary quinine. Euquinine, given in ordinary doses, does not affect the heart, circulatory system, nervous system, or digestive functions, and should hence always be preferred to the salts of quinine. In pediatrics euquinine is "the" remedy whenever pyrexia is to be combatted, in view of its tastelessness and of the insignificance of the by-effects of even very large doses. Euquinine is best given in broken doses of 0.25 to 0.5 Gm. (3¾ to 7⅓ grn.), and up to 2.5 to 3 Gm. (38 to 46 grn.), per day, as the maximum; prescribed in this manner early in the disease it always has a sedative action and favorably influences the course and gravity of the affection. In children, euquinine should always be given as it is in milk, or better still, in syrup of tolu, and at intervals of 1 to 2 hours according to the exigencies of the case. Infants of six to eight months receive 0.02 Gm. (⅓ grn) three times daily; children between eight and ten months of age, 0.02 Gm. four times daily; those ten to twelve months old, 0.02 Gm. six times daily; those one to two years of age, 0.05 Gm. (¾ grn.) three times a day; those between two and five years old, 0.1 Gm. (1½ grn.) three times daily; and those from five to seven years of age receive 1.25 Gm. (3¾ grn.) twice daily.—Arch. f. Schiffs-und Tropen-Hyg., vii, 1903.

Digitalin in Cardiac Dilatation.

In an exhaustive and very instructive paper on the place of drugs in cardiac dilatation, Dr. Henry Beates, Jr., of Philadelphia, specially recommends "digitalin Germanic" as a remedy. He says that the galenical preparations of digitalis are absolutely unreliable, and for the best obtainable results its active principles only should be employed; moreover, that one derivative, "digitalin Germanic Merck," positively controls the venous hyperemia, so constant an accompaniment of cardiac dilatation, and thus not only restores the lost circulatory equilibrium, but, because of this, overcomes the lymph stasis and edema and re-establishes absorption and metabolism. Sparteine, strophanthin, adonidin, and caffeine, the author asserts, possess especial properties rendering their use invaluable as the differently acting causes of cardiac dilatation operate and are amenable to the specific influences these respectively exert. Bearing in mind these facts, it is evident why at times both circulatory depressants and stimulants are advantageously used conjointly and in properly proportioned doses. Not infrequently the rapid, irregular, and intermittent contractions of a dilated, struggling and failing heart, the accompanying turgescent venous system and consequent edema, and almost stopped absorption, the dyspnea, albuminuria, etc., exist under such physical and physiological conditions that the large doses of digitalin (Germanic Merck)—i. e., ½ to 1 grn., from three to six times daily—needful to maintain cardiac action, will, by the powerful stimulant influence upon the vaso-constrictors, produce ischemia because of the disproportionate action, under these circumstances, upon the cardiac mechanism and the arterioles. Areas supplied by the latter, as in the cerebrum, for example, will suffer marked functional disturbance because of the cutting off of the blood supply; and yet the author maintains, the large doses must be administered, else the dilated and exhausted heart ceases to functionate and life be sacrificed. By the conjoint administration of a circulatory depressant like veratrum viride, this "digitalin ischemia" can be corrected, and the necessary doses for the maintenance of the heart's functions continued.—International Medical Magazine, xii, No. 4.

Saloquinine in Enteralgia.

Dr. F. Pirkner, of New York, describes his experience with saloquinine in five cases, among them the following:

A man of fifty-one, of neurasthenic disposition, poorly nourished and anemic, had suffered for a year with hyperesthesia of the mucous membrane of the bowels; he had cramps thrice before during the year, lasting each time two or three days. Dr. P. found the patient in bed, the body doubled forward, the right hand pressing on the abdomen, and complaining of intense abdominal pain; three stools during the past three hours, and vomiting three hours before. There was no fever, tympanites, or abnormality of the urine, though the passage of the latter caused a slight burning, which had been annoying for days. Having tried saloquinine before in cases of neuralgia, a 15-grn. powder was ordered to be taken every two hours, while the most acute pain was being relieved by pressure. After having taken three powders the patient went to sleep and did not wake for six hours, when he got up and passed 20 oz. of urine with freedom and without the annoying sensation of the days before. He then took two more powders; and when seen a few hours afterward, he was well and cheerful and without any complaint, and said he had never before passed through an attack of cramps so easily.—Med. News lxxxii, No. 6.

Stypticin in Uterine Hemorrhage.

Dr. J. von Csiky, gynecologist to the royal imperial state railroads at Budapest, has used stypticin for a number of years, and is very warm in his praise of this medicament as a uterine hemostatic. In a recent report he refers particularly to 38 cases of post-partum hemorrhage in which stypticin gave brilliant results in all but one, in which various operative procedures had been resorted to. Not only was the bleeding arrested, but involution of the uterus was effected at the same time; and in no instance was there a recurrence of the hemorrhage. The doses were 0.05 Gm. (¾ grn.) five to eight times in the course of twenty-four hours, given in sugar-coated tablet form. In one case 4.5 Gm. (70 grn.) were given altogether, without the slightest symptom of poisoning.

In metrorrhagia and other forms of uterine bleeding good results have also been obtained. The author considers stypticin as indicated in the following conditions: (1) Post partum subinvolution and hemorrhage; (2) after curetting in neglected abortion and in early abortion characterized by violent menstruations; (3) in inflammatory diseases of the uterus and adnexa, with violent or persistent hemorrhages; (4) after curettage in the various forms of chronic endometritis; (5) such bleeding from fibromata as experience has shown may at all be influenced by drugs; (6) hemorrhage due to pathologic flexions of the uterus, particularly that dependent upon retrodeviation. —Duet. Med.Ztg., xxiv, No. 26.

Thyraden and Thyroidin.

Thyraden is a lactose trituration of the dried extract of thyroid gland, 1 part of which represents 2 parts of the fresh gland. The preparation has an agreeable odor and taste, is reported to be non poisonous, free from ptomaines, of uniform action, without untoward by-effects in proper doses, and to represent active constituents of the thyroid in the least changed, yet permanent form. 1 Gm. of thyraden represents 0.7 milligram of iodine. Thyraden has been employed with good results in myxedema, cachexy, cretinism, thyreopriva, struma, rachitis, adiposity, psoriasis, lupus, leprosy, diabetes etc. The dose for adults is 2 to 4 grn. three times a day, gradually increased in exceptional cases up to 8 grn., best taken in tablets; children receive one-quarter to one-half of these quantities. Excessive doses produce weakness of the limbs, heaviness of the head, palpitation and insomnia.

Thyroidin is the simple dried thyroid gland of sheep, 1 part of which represents 6 parts of the fresh gland; it is thus three times as powerful as thyraden, and is accordingly given in one-third the doses of the latter. Its indications and uses are identical with those of thyraden.

Anasarcin.

By Dr. Robt. C. Kenner, Louisville, Ky.

Although of recent introduction, Anasarcin has been accepted by the intelligent and progressive element of the medical profession as a remedy of great efficiency in the treatment of dropsies. In fact, we may safely go farther, and say that the well-informed physician recognizes that he has in anasarcin the only therapeutic agent which offers him any reasonable hope of securing good results in the treatment of dropsies.

The old-time remedies, consisting of diuretics and drastic purgatives, always were disappointing, and in most instances they increased the debility of the patient. They also interfered with nutrition by producing anorexia.

In view of this fact, the introduction of anasarcin makes an era in the treatment of dropsies. It removes objectionable medication, and puts in its stead a treatment which can be relied upon for results with the most implicit confidence.

Anasarcin has been given ample clinical tests by able and conscientious physicians, and has been found to promptly effect the removal of the dropsical effusion, and to effect a permanent cure of the morbid process. This having been proven by adequate clinical tests, it is evident that anasarcin is destined to be regarded as the remedy for dropsy, as much as quinine the curative agent in malarial fevers.

The power, then, which anasarcin possesses of relieving and curing dropsy, and the further fact that it effects its remedial action without producing debility, makes it plain that we have in it a unique remedy whose worth cannot be overestimated.

In valvular heart disease, cirrhosis of the liver, Bright's disease, axd exophthalmic goitre, or in any condition where the normal equilibrium between the venous and arterial systems is disturbed, we shall find anasarcin a remedy of the greatest efficiency. The remedy, while it acts promptly, and is pleasing to both patient and physician, should be continued for a period long enough to effect the entire cure. This point is advanced in order to call attention to the futility of giving this or any other similar remedy for only a short time in serious cases. When anasarcin is given ample trial the best and most excellent results may be looked for with the fullest confidence.

Various Uses of Dionin.

Dr. Ed. Thumen, of Vienna (Aust.), relates his experience with dionin, as follows: A woman suffering with cardialgia, with violent pain and vomiting, had tried morphine, opium, cerium oxalate, and other remedies without avail. Then she was put on:

Dionin,	4½ grn.
Cherry-laurel Water	4 dr.

Thrice daily, 15 drops.

In half an hour the woman felt better; the vomiting had ceased, and the pains, which had existed almost an entire day, with but short remissions, had disappeared.

Dionin was used also in several cases of intestinal catarrh. In a man suffering with violent and painful diarrhea that failed to yield to opium and bismuth, the dionin drops had a prompt and marked effect.

In a number of cases of epididymitis, where painting the scrotum with iodine tincture produced burning pain, the introduction of a ⅔ grn. suppository for ten minutes decidedly moderated the pain of the application. A few doses of a dionin mixture (0.05 Gm. : 100 Gm.) rendered cauterization of the papules less painful than formerly.

In phthisis and in acute and chronic bronchitis dionin regularly manifested a desirable sedative and anodyne action. A powder containing about ½ grn. dionin and some sugar was given twice daily.

In syphilitic laryngeal ulcers, dionin did better service than any other morphine derivative; it diminished the pain and dysphagia. In wandering kidney, the analgesic action of dionin was also admirable.—Klin.-ther, Woch., x, No. 12.

Airol in Ophthalmology.

Dr. M. Betti relates his experience in 46 cases of eye disease in which he used airol. He asserts that this drug is well borne by the eye even when employed for a long time; it gives very good results in traumatic affections of the cornea in superficial and interstitial inflammations whether acute or chronic; and it has proved very successful even in diphtheritic conjunctivitis and lymphatic episcleritis.—Rev. de Ther., lxx, No. 6.

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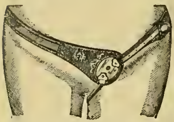

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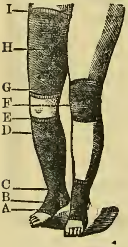

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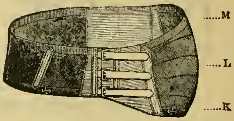

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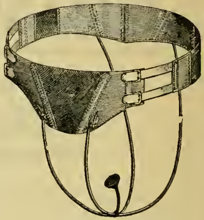

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Pericarditis and Ichthyol.

Editor Merck's Archives:

I wish to report a use of ichthyol which gave the most wonderful results. I had a case of acute articular rheumatism in a young married woman of twenty-two years, where the external use of ichthyol worked remarkably well, but owing to extreme carelessness there were two relapses, the second one resulting in the worst case of pericarditis that I ever saw recover. Because the ichthyol had relieved the painful joints so quickly and completely, I concluded to try it over the severe stabbing pain about the heart. On account of the long siege already experienced, I had very little hope; but painted pure ichthyol all over the precordia, with the astodishing result that the pain left entirely within three hours, the fever fell immediately, the pulse went down, and not a particle of opium was used or necessary.

Osseo, Wis. Dr. F. A. Northrup.

Dormiol as a Hypnotic.

Dr. Dybailoff has employed dormiol in eight cases, and comes to the following conclusions: Dormiol, in doses of 0.5 to 1 Gm. ($7\frac{1}{2}$ to 15 grn.) given half an hour before bedtime, produces in the majority of patients a strengthening sleep, similar to natural sleep; it has no untoward effect; it is best given in capsules; its action approaches closely that of trional; tolerance for it is established only after a pretty long time and then it is not very pronounced.—Rev. de Ther., lxx, No. 7.

Cerevisine in the Treatment of Gonorrheal Ophthalmia.

By Emma Jane Keen, M. D., Denver, Col.

Case—Infant daughter of Mr. and Mrs. ———, Denver, Colorado, born March 31st. Soon after birth the nurse noticed a discharge from the eyes and swelling of the eyelids, for which nothing was done except bathing the eyelids with warm water and flushing the eyes with breast milk. On the fourth day the attending physician's attention was called to the condition of the child's eyes and he at once ordered cleansing them with boric acid 4 per cent. solution every half hour, and a 2 per cent. solution of protargol to be used every two hours; also atropine every six hours.

Four days after, or when the child was eight days old, I was called to see the case. I found a profuse discharge of pus, which proved to be gonorrheal, marked swelling of the lids, great chemosis and extensive ulceration of the right cornea with marked keratitis and small ulcer on left eye. I at once ordered the eyes cleansed every ten minutes with 1 to 2,000 formalin and 5 per cent. solution of protargol carried forcibly over and into the folds of the lids, the interspaces and conjunctival sacs. This I allowed to remain in ten minutes. I also ordered hot applications to the lids, and used atropine and eserine alternately. After four days of this treatment, or when the child was twelve days old, I found the condition growing worse. The discharge was of a dirty yellow color, and the gonococci of Neisser were numerous; corneal destruction was so great that perforation seemed inevitable.

I was now decided to try a 50 per cent. solution of Cerevisine, a sample having been given me by Dr. Coover, with the request that I test the drug as it had never been used in gonorrheal opthalmia. I ordered it used as protargol had been in the right eye, which had been most affected from the first, and continued the treatment as before in the left eye. This treatment was carried on for three days with marked improvement in the right eye. I then began using Cerevisine in the left eye. At the end of the week, making four days for the left eye under Cerevisine, I found the eyes recovering as rapidly as possible and a complete disappearance of infection. Under the circumstances I cannot but feel that the quick destruction of the gonococci, the rapid disappearance of the discharge and inflammatory process, and the resolution of the injured corneal and conjunctival tissues were due to Cerevisine.

The average persistency of the gonococci in purulent ophthalmia in the infant under protargol, is four weeks, and under silver nitrate five weeks, while under the Cerevisine treatment I obtained complete disappearance of all gonorrhael infection in four days with much less pain and reaction than when protargol was used. After eight weeks there are no evidences of the eyes having been infected excepting slight temporary opacities of the corneæ, and complete recovery is assured.—Reprint from Denver Medical Times, June, 1903.

Treatment of the Opium Habit.

Dr. John W. Hyatt, of Bellevue (Tex.), offers the following line of treatment for the morphine habit, that is a reasonable success if the patient has a sincere desire to quit and the giver a sincere desire to cure: First, thoroughly empty the bowels; arouse the liver well. Have entire charge of the patient; then give him enough dionin hypodermically to make him reasonably comfortable, which can be done perfectly safely. Administer the following tonic:

Sodium Glycerinophosphate,	2 dr.
Calcium Glycerinophosphate,	1 dr.
Tinct. Nux Vomica,	1 dr.
Tinct. Capsicum,	½ dr.
Tinct. Calumba,	1½ dr.
Cinnamon Water to make	8 oz.

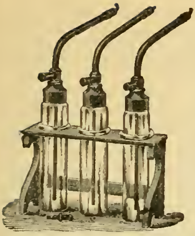
Tablespoonful every four to six hours.

Keep the liver stimulated with enough sodium glycocholate to show bile in the stools, and control diarrhea with ichthalbin and tannopine in equal quantities. After the first few days take the patient with you and keep him in the sunshine as much as possible, giving encouragement and help. After four or five days you may begin lessening the amount of dionin and quit it altogether in an average of ten days. Any country physician can use this plan of treatment to his and his patient's entire satisfaction.—Med. World, xxi, No. 5.

Incompatibles of Formin.

Dr. C. C. T.—Hot water or other hot liquids are liable to decompose formin (hexamethylenetetramine). Mercury chloride, added to solutions of formin, causes precipitation; silver nitrate produces a white precipitate soluble in an excess of the formin; cupric sulphate gives a light blue, and ferric chloride a brown gelatinous precipitate; tannic acid produces a yellowish-white precipitate, but gallic acid has no such action.

I have prescribed Neurilla in several cases, and in each the results have been uniform—acting as a nerve calmative in quieting patients and adding to their comfort generally.—J. Bryden Kent, M. D., Putnam, Conn.



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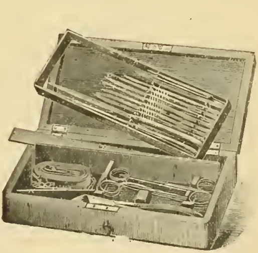

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Dr. E. Hoenigschmied has tested saloquinine in sciatica, menstrual colic, nervous headache, and articular rheumatism. In a case of chronic sciatica, 30 grn. was given three times daily, in tea, with a little rum. In a short time a feeling of comfort manifested itself, accompanied by gentle perspiration, which was followed by a subsidence of the pain. On the second day a very slight salicylic acid and quinine effect showed itself. After the third day the saloquinine was given in 15 grn. doses twice daily, the by-effects subsiding.

In the second case of chronic sciatica, in which the patient had been confined to bed for six months, the action of the drug was surprising. As the pains were most violent at night, and prevented sleep, 30 grn. of saloquinine were given at 5 p. m. and again at 9 a. m., in tea. Soon after taking the second dose, slight perspiration and a diminution of the pain set in, and the patient obtained a quiet sleep during the latter half of the night. The next day the same doses were given. On the third day, some tinnitis was present, and on this account only 30 grn. were administered, at 8 p. m. This dose sufficed to prevent the recurrence of the violent pains, although traces manifested themselves during the following fortnight. The dose was thereafter 15 grains daily for a week longer.

The third patient had attacks of sciatica several times a year, lasting several weeks at a time. Fifteen grains of saloquinine were prescribed at 4 p. m. and 9 p. m. At 10 o'clock the backache and sciatic pains had subsided, and the patient passed a good night. On the following day the drug was given in the same manner, and the recurrence of the pains was almost completely prevented. This led the patient to believe that she was cured, and she therefore failed to take the drug on the third day. At 9:30 she had another attack of pain, and immediately took two powders, which afforded relief in the course of one-half hour, although during the night she was restless. The next two days she took 60 grains, and then for three more days 30 grains, after which a cure resulted.

Some very satisfactory results were obtained in menstrual disorders. After a dose of 30 grn. the violent sacral pains subsided in the course of one-half hour, and the hemorrhage became less profuse than before. Sometimes the dose had to be repeated once or twice, but in many cases a single administration was sufficient. The drug is decidedly beneficial in profuse menorrhagia, whether attended with menstrual colic or not. In profuse hemorrhages it is Dr. Hoenigschmied's custom to administer 30 grains morning and evening, for three days, and keep the patient in bed. Of course, hot and stimulating foods and drinks must be entirely avoided.

In trigeminal neuralgia saloquinine also proved of service in doses of 30 grn. twice daily.—Canada Lancet, xxxvi, No. 2.

Iodipin in Uterine Fibroid.

Dr. J. A. Shaw-Mackenzie reports the results he obtained from the use of iodipin in two cases of uterine fibroid, both large movable growths extending up to the umbillicus. The treatment in the second case was by hypodermic injection of 2 Cc. (30 min.) iodipin 25 per cent. into the cellular tissue of the buttock and continued injection daily for ten days on alternate sides, doubling the dose on the fifth day. On the sixth day the tumor was two fingers' breadth below the umbilicus and the right lobe was easily defined. On the tenth the patient went out of town, feeling very well; but returned on the nineteenth, the tumor being much swollen again. The treatment was renewed, the dose increased in amount, and continued for several weeks with marked improvement, and in about two months' time she appeared restored to excellent health. The tumor and lobe could still be felt, but deep palpation was required to make them out. Although the reduction in size of the tumor in the first case was not as remarkable as in the second, still there was a very decided improvement. This treatment does not confine the patient to the bed or house, nor is there apparently any disagreeable effect.—Amer. Medicine, v, No. 18.

Sanmetto in Difficult Cases of Cystitis, Prostatitis, Incontinence, Impotency and Hematuria.

I have used Sanmetto very extensively in my practice for years, and as evidence of my perfect satisfaction, will say that I continue to prescribe it in all difficult cases. In cystitis, prostatitis, incontinence, impotency, and many cases of hematuria, I use Sanmetto with assurance of perfect success. In my female practice I find it the remedy par excellence, especially as a sexual tonic and a mammary rebuilder. I shall continue its use in typical cases.—O. L. Hudson, M. D., Princeton, Ind.

Emmet Densmore, M. D., says: "Linen is the best material for underwear; it absorbs moisture more readily than wool, and also gives it off more readily, and the body is thus encased in dry instead of damp garments. Cotton is a compromise between wool and linen."—From "Consumption and Chronic Diseases."

SUMMER COMPLAINT

Listerine is extensively employed in the treatment of various forms of DIARRHŒA occurring in children and adults. It is administered in doses of TEN DROPS to a TEASPOONFUL, as an antidote and corrective to the fermentative and putrefactive changes taking place in the contents of the alimentary canal.

In combating serious illness, it is doubly important to be assured that the patient is supplied with genuine Listerine, as the substitutes sometimes offered by the trade are generally of undetermined antiseptic strength and too often worthless for the purpose for which they are required.

A PAMPHLET ENTITLED:
"Summer Complaints of Infants and Children,"
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LAMBERT PHARMACAL COMPANY, Saint Louis, U. S. A.

Salts of Arsenic and Iron in Therapeutics

The association of martial and arsenical medication is not new in therapeutics. Devergy in 1847, Duchesne Duparc in 1854, and later on Gubler advocates the use of arseniate of iron in the treatment of certain dermatoses. The arsenico-ferruginous medication received the attention of the Academy of Medicine in 1880, apropos of a soluble preparation of arseniate of iron experimented with at the Hotel Dieu.

It is particularly in the treatment of anemia and chlora-anemia that the various combinations of iron and arsenic have been used by physicians all over the world. Unfortunately these preparations have often been the cause of disappointment because they do not possess the same value. In fact, Arseniate of Iron contains 38 per cent of arsenic and 28 per cent of iron. Such a compound when given at a daily dose of from three to twenty-five milligrames does not play the double part of a martial and arsenical agent as expected. In fact, when we administer arseniate of iron, the therapeutical dose of arsenic is exceeded when the dose of iron is reached. Arseniate of iron, therefore, may be considered as an arsenical agent, but its value as a martial preparation is *nil.*

The simultaneous administration of martial and arsenical preparations always induces gastric intolerance. For this reason Fowler's solution, even administered in small doses with a ferrous salt, always disturbs the digestive organs. Arseniate of soda and a ferruginous water (Bussang or Orezza, for instance) according to Gubler's method, produce in a short time gastric troubles, constipation and congestive phenomena toward the head.

For a long time practitioners have been in the habit of prescribing a mixture of Fowler's solution and tincture of Mars, equal parts, in progressive doses (4 to 20 drops daily). The objection that can be made in regard to this mixture is that it contains the tincture of Mars, which is the prototype of unreliable preparations. The therapeutists were so well aware of this fact that they have suggested instead the tartrate of iron and potassium. Even in this shape this medication is not endorsed by the majority. We must also refrain from administering Fowler's or Pearson's solution in combination with a tartarized tincture of Mars, or with the ferro-potassic tartrate (Liegeois). This combination would not be tolerated by the stomach; hence the necessity of interrupting the treatment. The use of cacodylic acid in therapeutics induced the pharmocologists and the clinicians to resort to cacodylate of iron. Cacodylic acid combines with iron in various proportions. The most interesting of these combinations are the ferric cacodylate and the ferrous cacodylate.

Ferric Cacodylate.—When we cause the reaction by heat of a solution of cacodylic acid on the hydrate of oxid of iron recently precipitated from the perchloride, the hydrate is dissolved giving a reddish-brown liquor from which may be isolated through evaporation the ferric cacodylate. This salt has the appearance of an amorphous powder, dissolves in water giving a brown liquor which gives all the reactions of iron to the maximum. Arsenic appears in it as in cacodylic acid.

But the ferric cacodylates of commerce are very far from the theoretical composition answering to the desired formula. Some of them contain too small a quantity of iron, they are acid and are easily dissolved in cold water. Others, which on the contrary are very little soluble and do not produce a clear solution, contain too much iron and may be considered as mixtures of ferric cacodylate and oxid of iron. Such oxid of iron, although sometimes soluble, is but feebly combined, precipitates easily and becomes inactive, and the influence of a foreign salt is sufficient to break this very mutable molecular preparation.

If we notice that the molecular weight of cacodylic acid is of 138 and that of iron 56, we see that to administer 0 gramme 056 iron in the shape of ferric cacodylate we have to give to the patient at the same time 0 gramme 414 of cacodylic acid; this dose is entirely too large considering the posology now admitted, and it results from this that the Ferric Cacodylate is above everything an arsenical, the iron which it contains existing only in too small a quantity so oxidizable that it injures its therapeutical activity. In fact, we know that the ferrous salts should be preferably used in therapeutics.

Ferrous Cacodylate.—This salt, the preparation and preservation of which are very difficult, represents the union of two molecules of cacodylic acid with one molecule of iron. It is a green powder soluble in cold water. This solution is eminently oxidizable and is rapidly transformed into ferric salt. In the cold state it produces a brown coloration due to mixtures of basic cacodylates and normal cacodylate. In the hot state the decomposition is more intense; there is a formation of ferric cacodylates and a precipitate of oxid of iron.

In the Ferrous Cacodylate the two elements do not yet exist in therapeutical proportions, 56 parts of iron correspond to 276 parts of cacodylic acid.

En resume, being given that in the union of the two medicinal principles we try to

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CHOLERA MORBUS,

SUMMER COMPLAINT,

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establish between the weights of the components a relation of therapeutical doses, we may assert that the two cacodylates of iron which we have studied do not answer to this indication.

In opposition to these unequal compositions we have just experimented with a new product, well-defined, unalterable, containing iron to the minimum of oxidation combined with cacodylic acid in such proportions that 56 milligrammes of iron correspond to 0 gramme 13 of cacodylic acid. This product, prepared in the laboratory of Clin, and to which its authors have given the name of *Marsyle*, is a yellowish-green powder soluble in water which it colors pale green. This solution may be kept a long time without oxidation; it is not affected by moisture, as is often the case with the solution of cacodylate of soda; and it never has the odor of garlic.

The toxicity of Marsyle has been studied on animals; it is *nil*. Rabbits, to whom Marsyle Clin has been administered, either hypodermically or in the stomach in massive doses (1 centigram to 50 centigrams daily) kept in good health. The urinary secretion particularly remained normal and there was an increase in weight.

On the adult in good health the medicine has been administered per os at an average dose of 10 centigrammes daily. The medicine was always well tolerated, the normal appetite increased and, as a most important fact, the garlicky odor was always very mush less than with corresponding doses of cacodylate of soda administered to the same persons.

Marsyle may be given in pill form or in solution. It may also be administered hypodermically. But on account of phenomena of reaction which may occur in certain patients, it is preferable to conform with the two following rules:

1st. Use the hypodermic method only when there is gastric intolerance. These cases are very uncommon, because we know that Marsyle is well tolerated, and that it does not produce in the organism the secondary cacodylic compounds.

2nd. Ascertain the susceptibility of the patient with a trial dose of ½ cubic centimeter, giving the injections at intervals sufficiently long to determine the degree of tolerance.

The average dose of Marsyle is 10 centigrams daily for adults. The medicine is taken at meal times. The dose corresponds to four Marsyle Clin globules, or 20 drops of Marsyle Clin. The drops may be given also in enema (20 drops to 30 or 40 grammes of tepid water). Hypodermically we give from ½ to 1 cubic centimeter daily. It is necessary to clean the needle of the syringe carefully after giving the injection to avoid the oxidations which would result from the contact of the needle with the atmosphere.

Later on we may discuss again this important question of the cacodylo-ferruginous medications.

Dr. Raymond,
(Revue Critique de Medicine et de Chirurgie).

Gastritis and Gastro-Enteritis---Their Treatment, with Clinical Report.*

This section of country has been visited the past summer by the most severe forms of gastritis, gastro-enteritis, entoritis and entro-colitis that I have seen in fifteen years of practice. These diseases were seen in patients of all ages, but the majority of cases were among children ranging from six months to three years of age. Our resources were taxed to their utmost capacity during this siege, but if we never come in contact with anything more than the regular routine of every day work we will never get any higher. It is the difficult cases; those that make us get down and study and work that makes the physician a successful practitioner. While the cases I shall report did not all recover, but they have taught me many things, and I think I have discovered a line of treatment that will yield results superior to any yet tried. It is impossible to lay down a plan of treatment that will suit all cases, no matter what disease we have to consider, but we believe we have a treatment that will meet most cases in a general way. It will be impossible in giving these clinical reports to give every little detail as recorded in our notes, because it will occupy too much space. The main line of treatment will be considered, therefore the reader will understand that all complications were treated as they arose. If we have discovered anything that will aid our brother physician in treating these very troublesome diseases, or that will assist him to save the life of one individual, we will feel fully repaid for our trouble.

Case 1.—Walter F., aged eight months; bottle fed, and an exceedingly stout, well-developed child. Took sick on July 3rd. Parents first noticed heat and redness about 3 o'clock a. m. Vomiting began soon afterward and was repeated every half hour. At 2 p. m. same day diarrhœa began, stools very large, watery and offensive, and occurred every twenty to thirty minutes, with a great deal of pain. I saw him at 5 p. m., made a diagnosis of cholera infantum, and prescribed the following: Elixir lactated pepsin, ʒ iii ss; camphorated tr. opii. ʒ ss; bis. sub. nit. ʒ iii; mix. sig. Teaspoonful

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*By C. W. Canan, M. D., B. S., Orkney Springs, Virginia.

The Battle Creek Sanitarium.

This magnificent fire-proof structure which has been in process of erection during the past year will be completed and dedicated about June 1, 1903. There will be accommodations in the main building for 350 guests, and accommodations in other buildings for 400 more patients. One hundred and seventy-five rooms have private baths. The new building is equipped with five hyraulic elevators, electric lights, a private telephone in each room, and all modern conveniences. For information concerning the facilities afforded, terms, etc., address,

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every three hours alternated with one gr. of Salol every three hours. To control the high temperature and jerking of muscles that was present m. ii of elu. ext. aconite root was put into eight dr. of water and instructions given to give the little patient a teaspoonful every twenty minutes, when temperature was high and skin dry until skin become moist, or four doses were given. July 4th, 9 a. m., vomiting controlled. Temp. 102 deg. F. pulse 120. Stools numbered 22 since 5 o'clock the day before, still large, watery and exceeding offensive, pain very great. Continued the above and added sulpho-carbolate zinc and acetate lead in small doses to the Salol. Milk and water equal parts with egg albumen was given in small quantities. 6 o'clock p. m., same day condition about the same, except temperament and pulse were higher. At 9 a. m. July 5th, bowels had not moved for six hours, surface cold, pupils dilated, wrist drop and temperature below normal. Called consultation and diagnosed the case as one of auto-intoxication. Every effort was made to arouse the sluggish system, but without avail. We could by no means produce emesis, peristalsis or movements from bowels. Patient lay in this condition with stomach and bowels greatly distended until 8 a. m. on July 6th, when it died—length of illness, three days and six hours.

Case 2.—Frances N., aged 13 months; nursed by mother until one week before taken ill, when she was weaned and placed on cow's milk. On July 6th she was found to be hot and restless during the early morning and wanted to sleep all the time. At 2 p. m. she began vomiting, and soon after diarrhœa set in. Stools were very large, watery, offensive and stained the napkins a grass green. At 6 p. m. I saw her, found temp. 103 deg. F., pulse 116, vomiting about once per hour cheesy masses of milk, stools averaging three per hour very acid in reaction. Gastro-enteritis or cholera infantum was again diagnosed. Began treatment by administering 1-10 gr. mild chloride combined with 1 gr. bic. soda every half hour until bowels were acted upon. This was followed by an alkaline purgative. Under this treatment vomiting ceased and actions were not so large. At 9 a. m. July 7th, I ordered same prescription as given in case 1, except 5 grs. of Creta Preparata was added to each dose. This was alternated with 1 gr. Salol. July 9th, condition critical. Patient rolls head from side to side, which is very hot. Has had 46 stools in last twenty-four hours. Ice cap was ordered for head and the dose of first prescription was increased. July 10th, condition grows worse, very restless, looks wild, and is threatened with convulsions. When asleep nothing but whites of eyes show. Ordered bromides, but stomach would not retain them, then ordered chloral by enema with enough cocaine to quiet irritable bowel. This at first seemed to do good but later bowel would not retain it. July 11th 9 a. m., profound stupor from which it died June 12th, 2 o'clock a. m., in spite of all three physicians could do. I would say that malted milk, albumenous water and beef extracts were tried as food.

Case 3.—Bertie C., aged fifteen months. Began July 10th at 5 a. m. to have high temperature and a little later had convulsions. At 10 a. m. diarrhœa came on and convulsions ceased. Stools were very frequent, offensive and acid in reaction. I saw the little patient at 3 p. m. It was comatosed, with eyes turned upward and pupils greatly contracted; pulse 136, temp. 104 deg. F. Diagnosis—Cholera-infantum complicated with meningitis. Ordered ice cap to head and mustard leaves to soles of feet. Prescribed prescription given in first case minus the camphorated tr. opii. Alternated this with ℞ chloral hydrastis ʒ ii; morph. sulph. gr. 1; Aques laur-cera ʒ i; m. sig. half teaspoonful every three hours. Gave a grave prognosis and told parents if child was living I would see it early next morning, but it died in coma about midnight.

Case 4.—Effie M., aged seven months. Bottle fed. Was hot on the evening of June 9th. Began vomiting large curds of milk during that night, diarrhœa coming on in the early morning. Parents gave a spoonful of castor oil with five drops of paregoric which was vomited. July 10th, saw patient, found temp. 104 deg. F., pulse 128. Stools very watery, green in color and acid in reaction. Matter vomited was also acid. Diagnosed the case as gastroenteritis and prescribed mild chloride mercury with bic. soda, which seemed to control vomiting. Temperature was to be kept under control by sponging with cold water. July 11th, pulse 120, temp. 101 deg. F. Vomiting had not returned, but bowels had moved 26 times in last twenty-four hours; patient has great pain before and during each action and strains severely. Ordered the following: Glyco-thymoline ʒ i; aqua dist. ʒ iii; sub. nit. bis, ʒ iii. Mix sig. Teaspoonful every three hours. Alternated this with 5 m. comphorated tr. opii. in mint water. July 11 no vomiting, temp. 101½ deg. F., pulse 120, stools still very offensive and highly acid. Continued prescriptions and gave high colonic flushings with 2 dr. glyco-thymoline to a pint of tepid water after first injecting a small quantity of 4 per cent solution to control irritability of lower bowel. Ordered sponging continued. July

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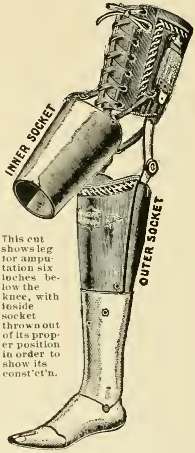

This cut shows leg for amputation six inches below the knee, with inside socket thrown out of its proper position in order to show its const'ct'n.

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12th, patient's condition better. No vomiting, stools had been reduced almost 50 per cent in number, pain very slight and no tenesmus, temp. 99½ deg. F., pulse 112. Continued glyco-thymoline mixture without the opii; flushed colon again. July 13th, patient doing well. The quantity of diet which consisted of albumen and malted milk was increased and the glyco mixture continued. July 14th, patient still improving and was dismissed July 17th.

Case 5.—Nora M., aged 21 months; took sick on July 11th. Had vomited on rising; was found hot and sent back to bed. I saw her at 3 p. m., she was vomiting about every hour and bowels moving often; large watery stools very offensive and acid in reaction. Temp. 103 deg. F., pulse 116. Child was very thirsty and restless. Diagnosis—Gastro-enteritis. Prescribed glyco-thymoline 3 ii; aqua dist. 3 ii; bis. sub. nit. Creta prep. aa 3 ii; mix. sig. teaspoonful every three hours after first clearing intestinal tract with an alkaline purgative. Temp. was to be controlled by cold sponging and ice to head. July 12th, condition about the same, except vomiting was not so often. Stools numbered 30 last twenty-four hours, and child cries with pain each time, mouth and lips very dry. Grabs at the cup and drinks with avidity. Continued yesterday's directions and ten drops of camph. tr. opii. was added to each dose of Glyco mixture until pain was controlled. July 13th, patient's condition was more critical. Temp. 104 deg. F., pulse 120, rolls head all the time when awake. Continued same prescription, but left off paragoric. Had patient sponged and flushed out colon with Glyc-thymoline 2 dr. to the pint of tepid water. July 14th, patient had rested better, temp. not so high, stools numbering only twelve the last twenty-four hours, mouth not so dry and patient less thirsty. Flushed colon again, and continued same directions as before. July 15th, patient's condition much improved. Very little thirst, stools beginning to form, has not vomited for 48 hours. Continued Glyco-Thymoline mixture every four hours, and gave pepsin on taking nourishment. Patient continued to improve and was dismissed July 22nd.

Case 6.—James R., aged 2 years. Very stout, healthy child. Ate a heavy supper and retired seemingly well. At 12 o'clock he woke up vomiting, and later his mother found him very hot. Diarrhœa began about daylight. July 15th, I found him with temp. 102 deg. F., pulse 120, tongue coated, offensive breath, great thirst, stools very green and containing some blood. Diagnosis—Gastro-enteritis. 1-6 gr. of the mild chloride combined in one gr. bic. Soda was prescribed every hour until six doses were given. This was followed one hour later by a spoonful of Husband's Magnesia. Directions were given to keep temperature well in abeyance by cold sponging and ice to head. July 16th, patient had vomited three times in last twenty-four hours and the stools number twenty, but several of them were attributed to the magnesia. They were still very green in color and contained considerable blood. Pulse 120, temp. 102 deg. F., lips parched and breath has a very strong, offensive smell. Ordered Glyco-Thymoline mixture used in the last three cases and alternated it with one grain Salon every three hours. July 17th, patient's condition about the same, except pain and straining at stool is much worse. After quieting the lower bowel with a suppository of cocaine solution, I used high colonic flushings of 2 dr. of Glyco-Thymoline to pint of tepid water. Above directions continued. July 18th, patient improved in some ways—has not vomited, and stools only number twelve the last twenty-four hours. Temperature and pulse not so high and pain and tenesmus not so severe. July 19th, patient has improved, stools only number eight since yesterday, but contain some blood and a quantity of mucus and sloughing material. Continued above treatment. July 20th, patient about the same except there is more pain at stool. I again flushed out the lower bowel with solution of Glyco-Thymoline. Patient's condition gradually improved day by day, and on the 27th of July was dismissed.

Case 7.—Mary W., aged 16 months; had been weaned in May and was a plump well-formed baby. She had been placed on cow's milk and seemed to thrive until the hot weather in June. From this it did not get along, bowels would be loose, and occasionally it would vomit its milk in large cheesy masses. These things would keep up for a few days when nature would seem to right herself. Probably the week following or soon after the same troubles would return. All the time the child was losing flesh and strength. On July 13th I saw the child for the first time. It was thin and very pale. Temp. 102 deg. F., pulse 112. Bowels moving from ten to twelve times per day, containing slime, blood and sloughing material. Tongue was very pointed, red and glazed and abdomen distended. Diagnosis—Entero-colitis. Prescribed dilute nitro-muriatic acid alternated with one minim spts. turpentine every four hours. July 14th, condition about the same. July 15th, tongue not so red and mouth not quite so dry, but stools number about the same and contain considerable blood. July 16th, patient restless, abdomen distended,

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Dr.——— Reports following case:

GASTRO-ENTERITIS, where there was constant vomiting. Child, twelve months old: gave one-half teaspoonful Glyco-Thymoline in hot water every hour until five doses were taken, also used Enema of Glyco-Thymoline, one tablespoonful in four ounces of water. This treatment gave prompt relief, and I believe saved the child's life.

Dr.——— Reports following case:

DYSENTERY: Patient, 16 months old, took to vomiting and running off at bowels six days before I was summoned. When I reached there, found the patient passing foul and bloody discharges, immediately put patient on Glyco-Thymoline and Liquid Bismuth, equal parts, teaspoonful every two hours; just after the second dose was given I could see a marked change. Patient improved fast, and in about three days had completely recovered.

Other similar cases treated with Glyco-Thymoline gave me equally good results.

SAMPLES ON APPLICATION

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and strains while at stool, has great internal thirst and heat. I discontinued the former prescriptions and gave in their place Glyco-Thymoline ʒ ii; Aqua. Dist. ʒ ii; Sub. Nit. Bis. ʒ iii. Mix sig. teaspoonful every three hours and flushed out large bowell with Glyco-Thymoline ʒ ii; Aqua oi. After patient had rested from the worry of administering the enaema I then filled the lower portion of bowel with the same solution except one-fourth the strength, and had nurse to aid the little patient to retain it as long as possible. July 17th, patient's condition improved, thirst not so great, tongue and mouth moist, stools reduced about 50 per cent. in number and contain less blood. July 18th and 19th, the bowel was flushed each day and the last prescription continued. July 20th, the patient improving; no blood in stools since the 18th, no straining, but the patient is very frail and weak. Alternated toddy made from old apple brandy every three hours with former prescription. July 28th, patient continued to improve nicely. To-day she was placed upon a tonic and dismissed.

Case 8.—Mrs. A. B., aged 65 years; began during the afternoon of July 21st to suffer from severe cramp or pain through stomach and bowels. An hour or two later she vomited several times, took a spoonful of castor oil with fifteen drops of laudanum added. In a very short time diarrhœa began, and at 6 p. m. she was delirious. I saw patient at 8:30 p. m., temp 105 deg. F., pulse 120. Stools very frequent and great pain. They contained quantities of blood. Patient's tongue heavily furred, and she has great thirst, unconscious most of the time. Diagnosis—Gastro-entero-colitis. Had patient given a sponge-bath, and applied ice to head. Prescribed a tablet every three hours containing opium, ipecac, acetate lead and ginger. This was alternated with a powder containing Salol 2 grs. sub. nit. bis. 5 grs. July 22d, temp. 102 deg. F., pulse 110. Stools frequent and great pain, patient conscious, but faints when raised up; very thirsty and very tender over abdomen. July 23rd, patient's condition worse. Stools number 52 last twenty-four hours, of course many of them were small in quantity and contained nothing but blood and mucus. Consultation called; continued former prescriptions and gave full doses of sulpho carbolate of zinc. July 24th and 25th, condition of patient about the same, except the movements of bowels were not quite so frequent and pain had been numbed by the opium. July 26th, temp. 103½ deg. F., pulse 120; tongue badly coated, mouth dry and patient really in a critical condition. Decided to make a thorough change in treatment, so withdrew the above and gave the following: Glyco-Thymoline ʒ iii. Sig. teaspoonful in half glass water every three hours. Aroc. spts. ammonia in full doses every three hours and alternated with Glyco. The colon was also flushed out with Glyco-Thymoline in solution. July 27th, patient passed the best night since taken ill. Repeated yesterday's procedure. July 28th and 29th, patient greatly improving. Flushed the bowel yesterday for the last time, if patient does well. Continued last prescriptions and gave carroid after taking nourishment. Aug. 4th, patient has continued to improve and is dismissed to day.

Case 9.—Mrs. E. L., aged 43 years. Enjoyed good health with the exception of having typhoid fever a few years ago, until last April, when her health began to fail. At first she only suffered some pain and a distended feeling of stomach and bowels. Diarrhœa then came on, which finally became dysenteric. I saw her on June 3rd. She was very anæmic, and said she had lost 30 pounds of flesh, unable to retain anything on her stomach at times. Examination revealed a red glazed tongue, and dry parched lips. Mucous membrane contained many whitish-looking ulcers. Food taken caused the mouth and stomach to burn like fire. Examination also revealed a distended abdomen and the colon was filled in places with fecal tumors. The case was diagnosed—Gastro-entero-colitis. Prescribed a full dose of Rochelle salts to clear colon, but this was vomited. I then placed her on Glyco-Thymoline ʒ ss. every two hours in as little water as possible, for large draughts of water were rejected at once. June 4th, vomiting had ceased, otherwise the same. Prescribed an alkaline purgative which did its work in part, but fecal masses could still be detected in the colon. June 5th, patient better, continued first prescriptions. June 6th, patient is having more trouble with bowels. Actions more frequent, more pain and mucus and blood. Prescribed alkaline purgative again but continued the Glyco-Thymoline. June 7th, patient complains of feeling very weak as the alkali had produced several large watery stools. June 8th and 9th, about the same; stomach quiet, and retaining light food, but dysenteric discharge still continues. Ordered colonic flushings with Glyco-Thymoline ʒ iv to each pint of warm water. First attempt was not successful, but the second brought away many hard fecal lumps or scybala. The flushings were kept up daily, and it was on the fifth day before the last fecal accumulation came away. June 15th, patient improves rapidly and continued to improve, and was dismissed July 10th. She took Glyco-Thym-

For Summer Practice

Antiphlogistine

Applied thick and warm over the entire abdomen, covered with a liberal supply of absorbent cotton and a suitable compress, is strongly recommended as an external application in all fermental diseases of the intestinal tract common to infant and adult.

Acting reflexly it tends to promptly relieve the pain and give rise to a feeling of comfort and drowsiness, resulting in a natural sleep in cases of

Summer Complaint

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SUMMER CASES

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oline through my whole treatment; and as soon as colol was freed, improvement was rapid.

Many other cases were treated, but those reported are illustrative of them all. There is one thing brought out in these cases that should be remembered, and that is, the colon may contain fecal matter although a diarrhœa may have been going on for weeks; in fact these fecal accumulations are the cause of the diarrhœa in many cases.

A few years ago I got very poor results from colonic flushings; this was because it was not done thoroughly. It requires considerable skill, and should never be trusted to any one. If the bowel is very irritable, this should be soothed before you can be successful. In most of these cases, whether you are able to thoroughly flush the colon or not, good always results when Glyco-Thymoline is used.

The reader will readily see which plan of treatment gave the best results in these severe troubles. That it is far better to control the high temperature by the application of cold water and ice than to try and keep it in abeyance with antipyretic drugs, because the latter will soon tell upon the heart; while the application of cold water generally strengthens the heart and invigorates the whole system. Combine this with the alkaline treatments, that of giving Glyco-Thymoline internally and using it in solution to flush the lower bowel, and you will never be disappointed.

It will be noticed in Cases seven and nine that weeks of diarrhœa and alkaline purgatives failed to remove old accumulations of fecal matter from the large bowel, and it was only accomplished after a number of flushings.

I saw whole beans removed in this way which had been eaten by the child ten days before, notwithstanding it had been purged four different times by different remedies. It is true that the removal of this offending material will be followed by good results, but it must be remembered that in these severe troubles the bowel is in many places undergoing a severe inflammation, and the mucous membrane is ulcerated and sloughing. It is in these conditions that Glyco-Thymoline gets in its good work. It is excellent treatment in proctitis or simple ulcers of the lower bowel. It exerts the same soothing, sedative healing influence in gastritis, and administered properly diluted it seldom fails to relieve the most obstinate vomiting. Sometimes it is necessary to only give a few drops in as many of pure water, and repeat at close intervals until success is the result. In these summer troubles of children, with offensive breaths and offensive green stools, it is especially indicated. In the treatment reported in this paper it must be understood that the diet was of the most bland nature. In some cases the little patients on taking milk, (even diluted with water), would soon vomit it in coagulated or cheesy masses, but we seldom failed to control this when Glyco-Thymoline was given and the temperature kept in proper bounds by the free use of cold water.

Lecithine in Tuberculosis.

Apropos of a Communication by M. Bouchard to the Academy of Sciences.

Professor Bouchard has just presented to the Academy of Sciences a note resuming the researches of MM. Claude and Zaki on the action of Lecithine in tuberculosis. These gentlemen have tried to determine more accurately than by clinical experimentation the action of Lecithine on tuberculized organs. These researches have been made on animals and on man.

I. *Experimental Researches.* They include two series of experiments:

1st. Three guinea pigs were inoculated with tuberculosis products. Two received injections of Lecithined oil (0 gr. 10 of Lecithine daily); the third was used as witness. The last one died in thirty-five days. Of the two former, one died three, and the other five weeks later. The analysis of the urines showed that under the influence of Lecithine the tuberculized animals eliminated less phosphorous (0,13 instead of 0,32 in the average), and that their nutrition was better, as the coefficient $\frac{Az\ U}{Az\ T}$ coefficient of utilization of azote remained on them in the neighborhood of 0,90 while it fell to 0,78 on the witness.

2nd. There lots of three guinea pigs each were similarly inoculated with the baccillus of Koch. One lot received subcutaneous injections of Lecithined oil (0gr. 05 of Lecithene daily); another lot absorbed in the stomach 0 gr. 05 of Lecithene. The third lot took no Lecithine and was used as witness.

All the animals of the last lot died within fifty days of the two other lots, who were well tuberculized. Two animals of each lot are yet living on September first, that is nearly three months after tuberculosis inoculation, and their weight has only begun to decrease. Nutrition among them is better than it was among the witnesses, the coefficient $\frac{Az\ U}{Az\ T}$ is superior to the one observed on the witnesses, and the elimination of phosphates recorded among the last ones is 0,42 on the average, while it is

Instantaneous

is the relief from the acute stinging pain of inflammations and eczematous eruptions about the muco-cutaneous margins when **Resinol Ointment** is applied. And a permanent cure is effected by this remedy with greater facility in all skin affections where a local application is indicated than by any other method. As a dressing for Burns, Carbuncles, etc., there is nothing approaches it.

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Summer Complaint.

The mucous membrane of the gastroenteric tract rids itself of the inciting material of Summer Complaint with the assistance of very little internal medication, though this act is not performed without making a demand upon the general storehouse of energy. Add to this the depression caused by toxæmic absorption and the marked exhaustion of an acute attack is readily explained.

Probably there is no better aid to further beneficial medication than Antiphlogistine applied warm and thick over the entire abdomen. The dressing to be immediately covered with absorbent cotton and a suitable compress. Peristaltic spasm is at once reduced, intestinal comfort promoted and refreshing slumber invited. Acting reflexly, Antiphlogistine restores the muscular tone of the intestinal walls and energizes the entire economy to resist the prostration from summer complaint so common to infant and adult during the humid months.

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only 0,037 and 0,02 among the animals of the two lots which have received lecithine.

II. *Researches on Man.* They were made at the hospital Saint Antoine. The authors have recorded twenty observations concerning cases of pulmonary tuberculosis at various degrees.

On eight tuberculosis patients, at the beginning, or in the first stage of the disease, the results of the treatment with Lecithine were most satisfactory. The general condition, bad or only languid, changed in a few days, strength increased, appetite reappeared almost immediately, and the weight increased in considerable proportions, 2, 3 and even 7 kilogrammes in less than twenty days. The decrease of the amount of phosphates in the urine followed almost immediately after the ingestion of Lecithine; 1,88 to 1,08 average in one case; 1,40 to 0,99 in another; 2,55 to 2,03 in a third one, etc. Finally the coefficient of utilization of azote $\frac{Az\ U}{Az\ T}$ increased constantly and in various proportions, according to the cases, from 0,70 to 0,90 average in observation VI; from 0,77 to 0,82 in observation V; from 0,79 to 0,85 in observation III., etc., etc.

Consequently under the influence of the stimulation of the appetite provoked by Lecithine, not only the patients absorb and eliminate, as it is demonstrated by the amount of urea disclosed by the analysis, but they elaborate better, and the organic combustions are remarkably enhanced.

Five observations of pulmonary tuberculosis in the second stage show also that Lecithine gives very satisfactory results. In all these cases we have noticed during the ingestion of Lecithine an increase of weight among the subjects who were previously getting lean. Sometimes the increase in weight was stopped by hectic fever or intercurrent complications, but it was only temporary. Besides, in all these patients the analysis of the urine showed us a diminution of the elimination of phosphates and an increase of the coefficient $\frac{Az\ U}{Az\ T}$ In four tuberculous patients with large cavities the results varied, an apyretic patient received from Lecithine the same benefit derived by the others as described before.

Three other patients affected with fever with great oscillations and having various general troubles, kept on losing weight. But, and this is most important, the elimination of phosphates decreased since the use of Lecitine, while the coefficient $\frac{Az\ U}{Az\ T}$ increased slightly. There was no modification in the evolution of the lesions. We must state, however, that our observations covered only a short space of time, and we were not able on that account to appreciate a change in the alterations of the organic lesions so far advanced.

The same remarks could be applied to two cases of acute pulmonary phthisis (broncho-pneumatic form). The loss of weight did not stop after the administration of Lecithine, but it was less rapid than before, the general condition at times greatly improved, the elimination of phosphates as well as the coefficient $\frac{Az\ U}{Az\ T}$ were favorably influenced as in the previous observations notwithstanding the poor condition of the organism.

On a young man who was apparently at the beginning of an attack of acute phthisis, the physical signs and general phenomena were suddenly modified as soon as Lecithine was administered; notwithstanding a tendency toward a relapse, when the dose of Lecithine was increased from 30 centigrammes to 50 centigrammes; the young man left the hospital in a fairly good condition, having only a few traces of lesions at one of the summits of the lungs.

Finally, in our last observation concerning a case of granulitis treated with Lecithine at a dose of 50 centigrammes two days before death, we noticed, notwithstanding the ultimate cachectic state of the patient, a diminution of the elimination of the phosphates after the ingestion of the medicine.

From these researches we may conclude that Lecithine, on account of its specific action on the elimination or the phosphates through the urines, and of its influence on the nutritive exchanges (increase of the coefficient $\frac{Az\ U}{Az\ T}$ or utilization of azote) may be considered as a precious adjunct to the various methods of treatment of tuberculosis.

This communication appeared to us to be very important, because it demonstrates the efficacy of the therapeutical action of Lecithine in the treatment of tuberculosis. We have at the present time under treatment eight tuberculous patients to whom we give Lecithine. We have administered the medicine under different forms. In three cases where the gastric tolerance exists in its normal condition, we give Clin pills daily. For a twelve-year-old child affected with tuberculous cervical adenopathy we have advised granulated Lecithine. In the other four cases characterized by an advanced stadium of the baccillary evolution, we give

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hypodermic injections with Clin solution. The injections are made every other day according to the modus operandi previously described. The dose of one cubic centimeter of the oily solution containing five centigrammes of Lecithine is generally well tolerated. We may publish later the results of these eight observations.

DR. RAYMOND,

(Revue Critique de Medicine et de Chiruir).

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Is one of the latest preparations placed upon the market by the Tilden Co. It is a most valuable hypnotic, as well as an anodyne and antispasmodic. All those who have had occasion to use it have none but words of praise for it. Its principal value lies in the fact that it possesses an absolute control in relieving the manifold conditions of unrest, insomnia, and those other conditions of a perturbed nervous organism, which so frequently arise in the course of diseases and render miserable the condition of patients who not only desire but are in need of rest. That the claims made for this preparation are not exaggerated, is made self-evident by an examination of the formula, which is as follows:

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Each fluid drachm contains—

Hydrate of Chloral,	Grs. X
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Hyoscine Hydrobromate	Gr. 1-200
Narkine (Tilden's)	Gr. ss.

It will be seen from this that all essential conditions are fulfilled and results are certain. The dose is from one-half to one fluid dram in water, repeated as occasion requires.

Gonorrhea in Women.

Hussey (Brooklyn Medical Journal): (1) Gonorrhea is a frequent disease among married women. (2) Its effects are often disastrous to the individual, to the family and to society. (3) It begins as an cute inflammation and soon becomes chronic, or it is chronic from the start. (4) The acute inflammation, if seen early and treated intelligently, may be cured. The chronic form is often located in the external genitals for a time and is amenable to treatment. (5) When the inflammation has involved the tubes and ovaries the normal condition of the parts is rarely restored. (6) The treatment of gonorrhea is made difficult by the fact that the patient does not apply for treatment at the beginning of the disease. This is due in the acute cases to her ignorance of the meaning of the symptoms. (7) The best treatment is prophylactic. (8) This can be accomplished only by teaching women that urethritis and leucorrhea are often the precursors of a chronic disease that may undermine their health, cripple their reproductive organs, and not infrequently cause death.

Should the Tuberculous Patient Know the Truth Regarding His Condition?

Dr. C. P. Ambler of Asheville, N. C., read a paper with this title at the recent meeting of the American Medical Association. He said it was the duty of the physician to explain to the patient the dangers to himself and to others; to point out where he was most apt to make mistakes; to give explicit directions regarding his hygienic life, including diet, exercise, work, physical ormental application, secretion, excretion, sexual relations, and, in fact, to go fully into the whole question of the hygiene of life. Such instructions should apply to the incipient as well as the advanced cases. To get the co-operation of the incipient cases they must know the truth. The laws of health demand that the patient fully realize the danger to himself and others. The patient should be appealed to that it was unkind to his friends not to make every effort to protect them. The education of the public, and the careful education of the patient as regards infection of others would accomplish more than legislation. In the fight against the spread of tuberculosis the patient should first of all know the truth regarding his condition.

Efficacy of Euquinine.

Dr. Audry has become convinced by numerous observations that euquinine (quinine carbonic ether) possesses all the therapeutic virtues of the ordinary salts of quinine; that it is a true specific in malaria. To its insipidity are added tolerance by the stomach and absence of ringing in the ears as a rule.—Rev. de Ther., lxx, No. 7.

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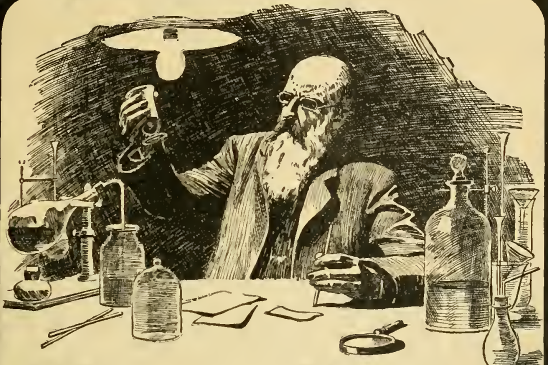

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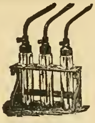

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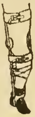

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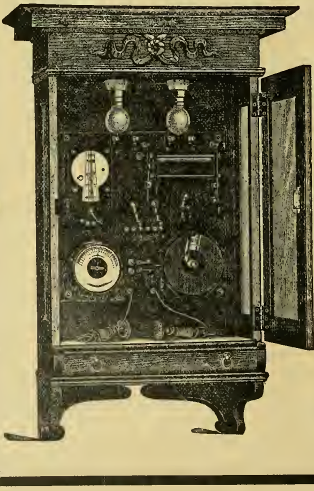

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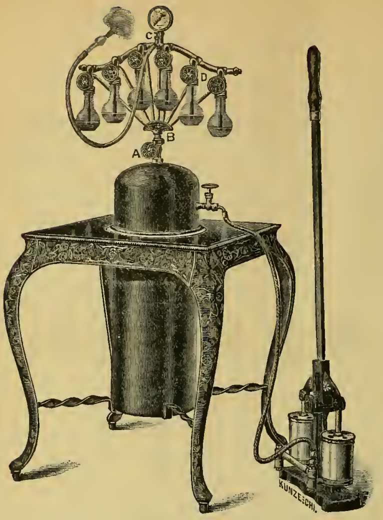

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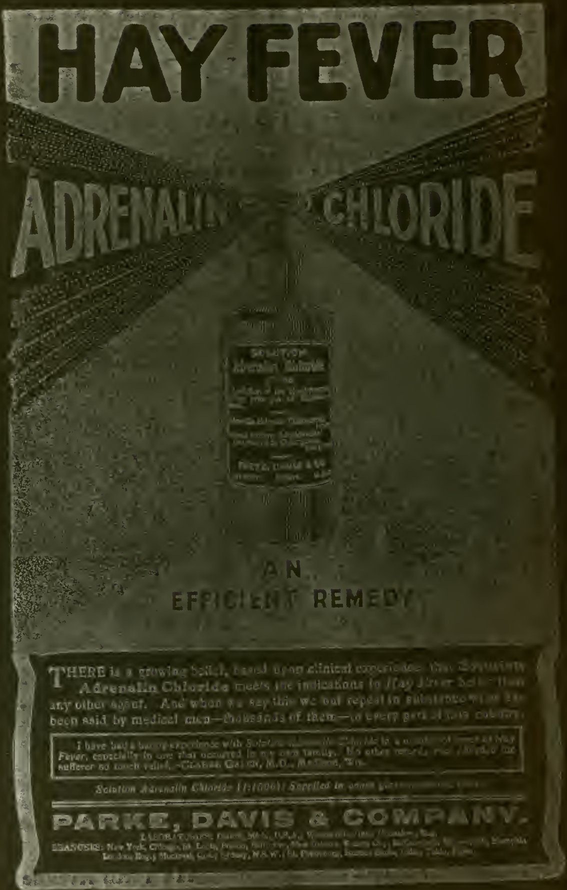

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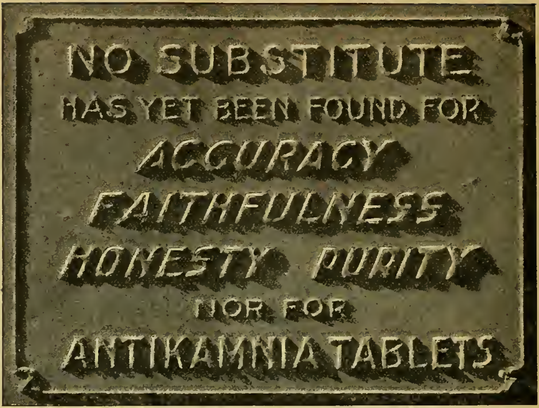

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Elegantly situated in the suburbs of the city, with every appointment and appliance for the treatment of this class of cases, including *Turkish* and *Electric Baths.* Experience shows that a large proportion of these cases are curable, and all are benefited from the application of exact hygienic and scientific measures. This institution is founded on the well-recognized fact that *Inebriety* is a *disease*, and *curable*, and all *these cases* require *rest*, *change of thought and living*, in the *best surroundings*, together with every means known to science and experience to bring about this result. New York Office: 115 West 49th Street, the first Tuesday of every month, from 12 to 4 P. M. Applications and all inquiries should be addressed,

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McArthur's Syrup

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Not a Stimulant, but a FOOD.

Hypophosphites

(Lime and Soda) Comp.

A Most Reasonable

Tissue Builder and Reconstructive,

Prepared according to the formula of Dr. Churchill.

Quick, temporary results not to be expected, but slow and permanent improvement will surely follow a generous treatment with McArthur's Syrup, in which phosphorus, lime and soda are incorporated with pure syrup in their most assimilable form, hypophosphites.

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4 full quarts of Corn Whiskey 10 years old - - - -	$ 3.50
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Or we will ship the 12 quarts named above for - - - -	$11.00

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Purest and Best Whiskey and Oldest House in America.

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Just as Corn-bread is more wholesome and palatable than Rye-bread, So with the Whiskey. So say all Doctors. Try it and be convinced.

Nothing on earth so beneficial to Weak Lungs, as this Mountain beverage.

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To obtain immediate results in

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Fellows' Syrup of Hypophosphites

Contains—Hypophosphites of Iron,
Quinine, Strychine, Lime,
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Each fluid drachm contains the equivalent of 1-64th grain of pure strychnine.

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Stomach, Liver, Kidneys, and Bladder caused by faulty Metabolism, and the Uric Acid Diathesis.

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The ideal safe family laxative, known as—**Syrup of Figs**—is a product of the **California Fig Syrup Co.,** and derives its laxative principles from senna, made pleasant to the taste and more aceptable to the stomach, by being combined with pleasant aromatic syrups and the juice of figs. It is recommended by many of the most eminent physicians, and used by millions of families with entire satisfaction. It has gained its great reputation with the medical profession by reason of the acknowledged skill and care exercised by the **California Fig Syrup Co.,** in securing the laxative principles of the senna by an original method of its own, and presenting them in the best and most convenient form. The **California Fig Syrup Co.,** has special facilities for commanding the choicest qualities of Alexandria senna, and its chemists devote their entire attention to the manufacture of the one product. The name—**Syrup of Figs**—means to the medical profession "the family laxative, manufactured by the **California Fig Syrup** Co." and the name of the Company is a guarantee of the excellence of its product. Informed of the above facts, the careful physician will know how to prevent the dispensing of worthless imitations when he recomends or prescribes the original and genuine—**Syrup of Figs.** It is well known to physicians that—**Syrup of Figs**—is a *simple, safe* and *reliable* laxative, which does not irritate or debilitate the organs on which it acts, and, being pleasant to the taste, it is especially adapted to ladies and children, although generally applicable in all cases.

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Tongaline
AND
QUININE TABLETS
TONGALINE .... 3½ GRS.
QUINIA SULPH. .... 2½ GRS.
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FOR ALL
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AND ESPECIALLY THOSE OF A
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A thorough eliminative
FOR THE VARIOUS FORMS OF
RHEUMATISM
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The Salicylic Acid used in this preparation is made from Oil of Wintergreen

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AN INFALLIBLE REMEDY FOR
NEURALGIA, RHEUMATISM, NERVOUS HEADACHE
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Tongaline is a compound of the most approved medicines
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It is taken internally and removes the causes [illegible]
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CONTAINS NO MORPHINE NOR OPIUM
Produces no unpleasant nor injurious [illegible]
Dose: One or two teaspoonfuls, diluted in [illegible]
copious drought of water every two hours [illegible]
[illegible] each meal and before retiring.
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One to three teaspoonfuls, according to the amount of Bromides required

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One to two teaspoonfuls three times a day

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Are assured in Bromide treatment when you specify

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Neurologists and General Practitioners prefer it because of its superior qualities over the commercial salts. Each fluid drachm represents fifteen grains of the combined chemically pure Bromides of Potassium, Sodium, Ammonium, Calcium and Lithium. : : : : :

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Re-establishing portal circulation without producing congestion. Invaluable in all ailments due to hepatic torpor. : : : : : : : : : : :

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TISSUE BUILDING
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BOVININE

is most successful because **BOVININE** supplies absolute and perfect nutrition.

It not only stimulates, but completely feeds the new born blood cells, carrying them to full maturity.

It increases the leucocytes and thereby most powerfully retards pathological processes.

As a food and nutrient it is ideal, requiring little or no digestion, and being at once absorbed and assimilated.

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In typhoid fever and all wasting diseases it may be administered per rectum, and will sustain the strength and support the heart without need for recourse to alcoholic stimulants.

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THE absolute absence of all OPIATES, NARCOTICS, and ANALGESICS, thus offering, instead of false roundabout and mere transitory relief, a true and scientific treatment for AMENORRHEA, DYSMENORRHEA, and other IRREGULAR MENSTRUATION.

In these conditions and the most obstinate cases of SUPPRESSED and RETARDED MENSTRUATION, Ergoapiol (Smith) (though devoid of the above unpleasant features, which are so often followed by a sad sequela) possesses a remarkable power to obviate pain and to bring about a healthy activity of the menstrual functions through its direct tonic and stimulating effect upon the Uterus and its appendages.

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Orig. pack.

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REMOVES SPASMODIC CONDITIONS.
REGULATES THE VASCULAR SUPPLY.**

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COMPOUND**

UTERINE-ALTERATIVE

EXERCISES
A tonic influence on the pelvic organs.
An alterative action on the uterine tissues.

THE ORIGINAL PACKAGE OF PONCA COMPOUND CONTAINS 100 5GR. TABLETS MAILED TO PHYSICIANS ON RECEIPT OF $1.00.

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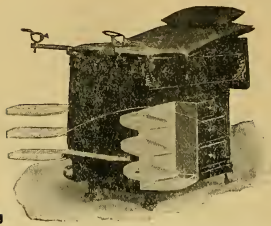

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DOSE: One to four pillets three times a day.

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Pudding,

the proof of which
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That this pleasant tasting, neutral combination of organic Iron and Manganese is an efficient **"Blood-Builder"** in cases of **Anæmia, Chloro-Anæmia, Chlorosis, Rhachitis, etc.** is shown in two ways:

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It is to the medical profession that this water owes its prominence in materia medica to-day. Hundreds of physicians who have given it an honest trial in their practice recognize and proclaim its efficacy in all diseases where Lithia is indicated as advantageous. It is to the credit of **Harris Lithia Water** that it has no adverse critics within the profession, and that those who prescribe it have given it unstinted praise.

We do not claim to have the only valuable Lithia Water on the market, but we do claim to have a very much better Lithia Water than very many waters more widely advertised, and, furthermore, that none of the best are better than **Harris Lithia. Harris Lithia Water** is no experiment—no new discovery courting the imagination of the ignorant. We appeal to your scientific opinion solely and we shall be content to rest upon the results of its use in your practice.

We invite the closest inspection of our improved bottling equipment at the Springs, with a view of demonstrating the care and cleanliness exercised in placing this water on the market in perfect condition. The still water is shipped in 12-gallon carboys, 5-gallon glass demijohns and cases of one dozen half-gallon bottles. The carbonated water is put up in quarts, pints and half-pints; quarts, 50 bottles to case; pints and half-pints, 100 bottles to case. We call especial attention to our **Ginger Ale,** made from the purest ingredients and **Harris Lithia Water.** For the sick room, there is nothing to compare to our ale.

HARRIS LITHIA SPRINGS COMPANY,
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(Oxydendron-Sambucus-Scilla Compound.)

A SPECIFIC FOR DROPSIES

DOCTOR:

If you know a thing to be a fact, it is not wrong or unethical to say so. Neither does it smack of quackery or Charlatanism and should not shock the sensibilities of any, however refined, cultured or zealous of medical etics for us to claim that ANASARCIN is a *specific in dropsies*, when clinical experience has demonstrated such to be a fact. If quinine is a specific in malaria, much more is ANASARCIN in dropsies resulting from disease of the heart, liver or kidneys; because that a trial of it in hundreds, yea, thousands of cases has not resulted in a failure known to us where directions have been followed.

Besides being a specific for dropsies, it is a permanent cure in the conditions mentioned when begun early and continued a sufficient length of time, *i. e.*, until the diseased organs regain normal function. ANASARCIN is composed of the active principles of Oxydendron Arboreum, Sambucus and Urginea Scilla, and is sold exclusively to physicians or druggists for physicians. Trial box free with literature and testimonials furnished physicians on application.

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FORMULA:--15 grains each Chloral Hydrate and Purified Brom. Pot. and 1-8 grain each Gen. Imp. Ext. Cannabis Ind. and Hyoscyamus to each fld. drachm.

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BATTLE & CO., CHEMISTS CORPORATION, ST. LOUIS, MO., U. S. A.

BUFFALO LITHIA WATER,

A Valuable Adjunct to the Physician in the Treatment of Fevers, Malarial, Typho-Malarial and Typical Typhoid. A Preventive of Post-Scarlatinal Nephritis.

Dr. I. N. LOVE, late of St. Louis and New York City. (See Medical Mirror, Feb., 1901.) "In infectious diseases such as Scarlet Fever, Typhoid and Malarial Fever, the normal secretions are frequently—indeed, usually—checked or perverted. As a result we often have Acute Gout, or so-called Rheumatic Complications, really dependent upon interrupted elimination; and the essential necessity as a preventive and cure is free flushing of all the eliminating organs. For this purpose BUFFALO LITHIA WATER is most excellent and should be administered ad libitum in all such cases until a complete cure is established."

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Proprietor, BUFFALO LITHIA SPRINGS, VA.

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SYRUP HYPOPHOSPHITES COMP. WITH QUININE, STRYCHNINE AND MANGANESE.

1-128 grain Strychnine to teaspoonful.

The pharmaceutical skill displayed in making this favorite compound more stable and agreeable, deserves the approbation of the profession.

Syrupus Roborans as a Tonic during Convalescence has no Equal.

As a nerve stimulant and restorative in waisting and debilitating diseases, as a constructive agent in Insomnia, Pneumonia, Bronchial Asthma, Marasmus, Strumous Diseases and General Debility, this compound has no superior. Owing to the solubility of the salts, additions can be made of Fowler's solution, Syrup Iod. Iron, Iod Potass, etc., giving the advantages of these remedies without interfering with the stability of the preparation. SYRUPUS ROBORANS is in perfect solution, and will keep in any climate.

Dr. T. H. Stucky writes: "In a case of Tertiary Syphilis, very anemic, the Iodides were revolting to the stomach, being vomited when taken. Syrupus Roborans given three weeks with improvement, when the Iodides Potassium was retained with good results."

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PETER'S PEPTIC ESSENCE COMP.

A POWERFUL DIGESTIVE FLUID IN PALATABLE FORM.

Please note that Essence and Elixir Pepsin contain only Pepsin, while in Peter's Peptic Essence we have all the digestive ferments. These are preserved in solutions with C. P. Glycerine in a manner retaining their full therapeutic value, which is exerted in and beyond the stomach.

It is a stomachic Tonic, and relieves Indigestion. Flatulency, and has the remarkable property of arresting vomiting during pregnancy. It is a remedy of great value in Gastralgia, Cholera Infantum and Intestinal derangements, especially those of an inflammatory character. For nursing mothers and teething children it has no superior. Besides mere digestive properties, Pepsin and Pancreatine have powerful soothing and sedative effects, and are therefore indicated in all gastric and intestinal derangements, and especially in inflammatory conditions. It is perfectly miscible with any appropriate medium. In certain cases the addition of Tr. Nux Vomica gives much satisfaction. Please write for Peter's Peptic Essence and you will not be disappointed. These preparations are held strictly in the hands of the medical profession, never having been advertised as popular remedies, nor put up with wrappers and circulars expatiating on the use of the Hypophosphites or Digestive, thus educating the public in the use of these valuable compounds.

Samples Sent upon Application. Express Charges at your Expense.

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ROYAL

Baking Powder.

INDISPENSABLE FOR PURE WHOLESOME FOOD,

Royal Baking Powder is made from cream of tartar, a product of the grape, and the most healthful of all fruit acids.

Royal Baking Powder vesiculates the dough by mechanical means, without fermentation, and in no way affects or changes the constituents of the flour. There is no destruction of the gluten or sugar, but all those elements are preserved which are intended by nature, when combined in our bread, to make it literally "the staff of life."

Fresh bread, cake, biscuit, griddle-cakes, etc., raised with Royal Baking Powder, may be eaten with impunity by persons of dyspeptic tendencies or the most sensitive stomachs.

Food for the sick requiring to be leavened is made perfectly wholesome and more nutritious by the Royal Baking Powder than by any other vesiculating agent.

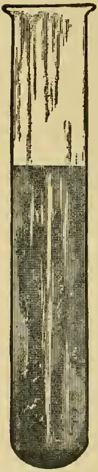

Fig. 1.

TEST TUBE EVIDENCE

is convincing and shows the rapid effect obtained by the administration of

Cystogen

in Cystitis, Bacteriuria, Phosphaturia, Pyuria, and all other conditions indicating a diuretic and urinary germicidal agent.

☜ Fig. 1. Urine cloudy; fetid odor; full of bacteria, pus, blood and epithelial cells; ammoniacal.

Fig. 2. Urine clear and sweet, amber colored, acid reaction. ☞

This result has been obtained in one week by giving CYSTOGEN grs.5 four times daily.

Administered in five gr. doses three or four times daily, CYSTOGEN will make the urine a solution of formaldehyde, and thereby inhibit the formation of pus, prevent ammoniacal decomposition, and render it bland and unirritating to the mucous membranes.

Cystogen is prepared in powder and tablets of 5 grs. each.

SAMPLES ON REQUEST.

CYSTOGEN CHEMICAL CO.

ST. LOUIS.

WRITE FOR LITERATURE.

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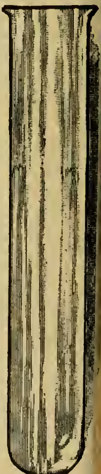

Fig. 2.

The Charlotte Medical Journal.

Vol. XXIII. CHARLOTTE, N. C., SEPTEMBER, 1903. No. 3

The Significance of the Recently Recognized American Hookworm Disease for the North Carolina Practitioner.*

By Ch. Wardell Stiles, Ph. D., Chief of Division of Zoology, Hygienic Laboratory, U. S. Public Health and Marine Hospital Service.

Mr. President and Members of the Association: Before passing to a discussion of hookworm disease, I desire *first* to present to the officers and members of the Society the compliments of Surgeon-General Wyman, with his best wishes for a successful and profitable annual meeting; *second*, I wish to thank you for the honor you have conferred upon me and upon my work by inviting me to attend your meeting in order to discuss the subject of hookworm disease; *third*, I wish to thank you for the very cordial reception you have given me, for you have received me with that characteristic cordiality and open-heartedness which is proverbial for our Southern States. You are all aware that I come from the "Wooden Nutmeg State," for several of the friends whom I have already made among you have jocosely asked me regarding the present price of "wooden nutmegs!" As for that nutmeg story, you know that there are two versions: One version is that a Carolinian once ordered some nutmegs from Connecticut, and when they arrived here they were found to be imitations, made of wood. The other version is that a Carolinian, thinking that nutmegs were soft, like grapes or plums, ordered some from Connecticut, and when they arrived here he accused my State of perpetrating a fraud by sending down nutmegs made of wood.

Whatever may be the correct version of the incident, I acknowledge that it is a matter of no little pride to me that though a legal resident of the Nutmeg State, I have now lived in the South for about twelve years; I can, therefore, enjoy both sides of the nutmeg story, and can view not only this but also other matters from an impartial point of view. And if your version of the nutmeg incident is the correct one, I hope you will permit me now to make amends for the former misdoings of my ancestors by trying to clear up some of the anemia which you have in this State, and which I attribute to hookworm disease.

Let us first turn to a study of the structure and life history of the parasites in order that we may have a biological basis for the medical side of the discussion.

ZOOLOGICAL POSITION OF THE PARASITES.

The parasites which cause uncinariasis are worms belonging to the nematode family Strongylidæ.

Family *Strongylidæ*.

Family Diagnosis. — Nematoda: With body elongate, cylindrical, rarely filiform. Mouth is probably always provided with six papillæ, of which the four submedian are generally salient in form of nodules or conical points. In some cases the mouth is in the axis of the body; in others it is turned dorsally or ventrally, and occasionally provided with a chitinous armature. Esophagus more or less swollen in posterior portion, but without forming in adults a distinct esophageal bulb. Male provided with a caudal bursa, opened or closed, entire or divided, and with one or two spicules. Female with one or two ovaries; vulva anterior or posteria of equatorial plane, in some cases near the anus. Eggs deposited during segmentation, in some cases containing embryo.

Type Genus.—*Strongylus* O. F. Mueller.

The sexes are separate and the digestive tract is complete. Characteristic for the family is the presence, on the tail of the male, of an umbrella-like structure known as the caudal or "copulatory bursa," supported by a number of finger-like rays," which may be compared to the ribs of an umbrella. In coitu, the male clasps the body of the female by means of this bursa.

This family is divided into sub-families, according to the presence of certain anatomical characters. The parasites of uncinariasis are usually classified in the subfamily Strongylinæ, which, as its former name, Sclerostominæ, indicated, is characterized by the presence of a hard chitinous "buccal capsule." The indications are however that we should recognize a special subfamily for the hookworms, and to this group should be given the name—

Subfamily *Uncinarinæ* Stiles, 1902.

Subfamily Diagnosis.—Strongylidæ: Meromyaria; mouth with more or less complete chitinous armature, and followed by a distinct buccal capsule; the anterior end curved more or less distinctly dorsal, so that the mouth is on the dorsal surface. Male with two equal spicules; caudal bursa with rays, the dorsomedian and dorsolateral being united in a common base. Female with two ovaries.

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* Detailed by Surgeon-General Wyman to represent the U. S. Public Health and Marine Hospital Service at the Hot Springs meeting.

Type Genus.—*Uncinaria* Frœlich, 1789.

In this subfamily there may be classified at present at least two genera (namely, *Uncinaria* and *Anchylostoma*) which are certainly valid; and besides these there are certain other groups (namely, *Bunostomum*, *Monodontus*, *Necator*, *Agriostomum*, and *Characostomum*), which will represent either distinct genera or at least subgenera. For the purpose of this paper it will be sufficient to indicate the systematic relationships, leaving a more detailed discussion of the subject for a later publication.

There are two different hookworms which occur in man, namely, the New World Hookworm (*Uncinaria Americana*) and the Old World Hookworm (*Anchylostoma duodenale*).

Genus *Uncinaria* (*a*) Frœlich, 1789.

Generic diagnosis.—Strongylinæ: With anterior extremity curved dorsally; mouth round to oval, opening oblique, limited by a transparent border and followed by a chitinous buccal capsule; the dorsal portion of the capsule is shorter than the ventral, and is supported by a conical structure, the point of which sometimes extends into the cavity; at the base of the buccal capsule are found two ventral lancets; toward the inner free border the ventral wall bears on each side of the median line chitinous lips, the inner dorsal wall may also bear lips. Oviparous, eggs with thin, transparent shell.

Type Species.—*Uncinaria vulpis* (*b*) Frœlich, 1789.

For the purpose of this paper we may subdivide the genus *Uncinaria* into several subgenera which may later be raised to generic rank, namely:

Subgenus *Uncinaria* Frœlich, 1789.

This is the typical subgenus and has *Uncinaria vulpis* as type. It is not represented among the parasites of man.

Subgenus *Bunostomum* Railliet, 1902.

This subgenus is characterized by the asymmetrical caudal bursa and by the prominent lips and prominent median buccal tooth. It contains at least two species, *Uncinaria radiata* of cattle, and *Uncinaria trigonocephala* of sheep, both of which occur in the United States.

Subgenus *Monodontus* Molin, 1891.

This subgenus is based upon *Monodontus semi-circularis.*

Subgenus *Necator* Stiles, 1903.

Uncinaria Americana, the New World Hookworm of man, is the type of this subgenus. It is characterized by the prominent ventral lips, the prominent dorso-median buccal tooth, and the unusual division of the dorso-median ray, which is divided to its base, the branches being very divergent. The vulva is anterior of the equator.

The New World hookworm—*Uncinaria Necator Americana* Stiles, 1902—
of man.

Specific Diagnosis—*Uncinaria:* Body cylindrical, somewhat attenuated anteriorly. Buccal capsule with a ventral pair of prominent semilunar plates or lips, similar to *U. stenocephala*, and a dorsal pair of slightly developed lips of the same nature; dorso-median conical tooth projects prominently into the buccal cavity, similar to *Monodontus*. Male, 7 to 9 mm. long; caudal bursa with short dorso-median lobe, which often appears as if it were divided into two lobes, and with prominent lateral lobes united ventrally by an indistinct ventral lobe; common base of dorsal and dorsal-lateral rays very short; dorsal ray divided to its base, its two branches being prominently divergent and their tips being bipartite; spicules long and slender. Female, 9 to 11 mm. long; valva in anterior half of body, but near equator. Eggs, ellipsoid, 64 to 76 *m* long by 36 to 40 *m* broad, in some cases partially segmented in utero, in other (rare) cases containing a fully developed embryo when oviposited.

Habitat.—Small intestine of man (*Homo sapiens*) in America (determined to date, for Virginia, North and South Carolina, Georgia, Florida, Alabama, Texas, Porto Rico, Cuba and Brazil).

Type specimens.—No. 3310, B. A. I., U. S. Dept. Agric.

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[a] Synonymy, with Original Place of Publication.

1789: *Uncinaria* Frœlich—Der Naturforscher, Halle, v. 24, pp. 130-139; type *Uncinaria vulpis* Frœlich, 1789.

1799: *Unciaria* Fischer—Arch. f. d. Physiol., Halle, v. 3, p. 99. [Apparently a misprint for *Uncinaria.*]

1845: *Dochmius* Dujardin, Histoire naturelle d. helminthes, pp. 267, 275-279; type, *Uncinaria vulpis* Frœlich, 1789.

1845: *Docmius* Dujardin, ibidem, p. 114. [Misprint for *Dochmius.*]

1861: *Doomius* Molin—Ibidem, p. 471. [Misprint for *Dochmius.*]

1862: *Dachmius*—Veterinarian, Lond. (416), v. 35, 4, s. (62), v. 8, Aug., pp. 549-556. [Misprint for *Dochmius.*]

1902: *Dohmius* Looss—Centrabl. f. Bakteriol., Parasitenk (etc.), Jena, 1 Abt., v. 31 (9), 5, Apr., Originale, p. 424. [Misprint for *Dochmius*].

1902: *Unicinaria* von Linstow—Zool. Centralbl., Leipz., v. 9 (24-25), 16, Dec., p. 778. [Misprint for *Uncinaria.*]

[b] This species is probably identical with *Uncinaria melis* Frœlich, 1789; *Ascaris criniformis* Gœze, 1782, and with *Uncinaria stenocephala* (Railliet, 1884).

LIFE HISTORY OF UNCINARIA AMERICANA.

The life history of the American hookworm has not yet been determined in detail, but there is no reason for assuming that it will differ radically from that of *Anchylostoma duodenale.*

In my first description of the worm I stated that the egg in the uterus may occasionally contain an embryo. Since making this observation on the females sent to me by Dr. Allen J. Smith, I have examined hundreds of fresh eggs, but have not found any containing developed embryos. The question may therefore legitimately arise whether the females originally examined were not exposed to the air for some time before they were preserved, thus making the development of the eggs possible. If the embryo does not develop in the uterus, as indicated by some of Dr. Allen J. Smith's material, such an occurrence is undoubtedly rare.

DEVELOPMENT OUTSIDE THE BODY.

Segmentation.—In feces exposed to a September, October, or early November temperature of the Carolinas, Georgia and Florida, the embryo develops in the egg in about one day's time. In some instances the embryo develops in less than 24 hours. It is a common occurrence to find feces 24 hours old containing free embryos.

The conditions under which the trip was made were not favorable to exact observation in regard to temperature, moisture, etc. It was, however, possible to find worms in their first ecdysis about 2 to 3 days after hatching. These observations were made under most unfavorable circumstances, when careful measurements, drawings, etc., were excluded, hence they should be repeated.

DEVELOPMENT INSIDE THE BODY.

Experimental infections have not yet been made.

Genus *Anchylostoma* (*a*) Dubini, 1843.

Diagnosis.—Uncinarinal: Similar to *Uncinaria* but provided with ventral recurved teeth instead of lips; buccal cavity lacks the prominent dorso-median tooth; dorso-median ray of burso divided at a point about two-thirds its distance from its base; vulva caudal of equator.

The Old World hookworm—*Anchylostoma duodenale* Dubini, 1843.

Specific Diagnosis—*Anchylostoma:* Body cylindrical, somewhat attenuated anteriorly. Buccal cavity with two pairs of ventral teeth curved like hooks, and one pair of dorsal teeth directed forward; dorso-median tooth rib not projecting into the buccal cavity. Male, 8 to 11 mm. long; caudal bursa with dorso-median lobe, and prominent lateral lobes united by a ventral lobe; dorsal ray divides at a point two-thirds its length from its base, each branch being tridigitate; spicules long and slender. Female, 10 to 18 mm. long; vulva at or near posterior third of body. Eggs, illipsoid, 52 to 60 *m* by 32 *m*, laid in segmentation. Development direct without intermediate host.

LIFE HISTORY OF ANCHYLOSTOMA DUODENALE.

The eggs are laid in the intestinal tract of the patient by the female worms and are discharged in the feces, either unsegmented or during the early stages of segmentation. They will not develop into adult worms in the intestine, but must first pass out of the body. Thus, for every adult hookworm present in the bowels a separate germ must enter the body.

The egg has a thin shell, which is an indication of a simple life cycle. A short time after escaping in the feces—the time varying according to temperature, moisture and position in the feces—each egg develops a minute embryo, which is known as a rhabditiform embryo. This name is given to it because of its resemblance to worms of the genus *Rhabditis*. Characteristic for this stage is the rhabditiform esophagus, which is entirely different from the esophagus of the adult hookworm. This embryonal esophagus is more or less bottle shaped, and consists of three parts—an anterior elongated swollen portion, followed by a thin middle portion, the latter being follow-

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[a] SYNONYMY, WITH ORIGINAL PLACE OF PUBLICATION.

1843: *Anchylostoma* Dubini—Annal. univers. di medic., Milano. v. 106, aprile, pp. 5-13; type *Anchylostoma duodenale* Dubini, 1843.

1845: *Anchylostoma* Creplin—Archiv. f. Naturg., Berlin, 11. J., v. 1, p. 235; for *Anchylostoma* Dubini, 1843.

(1846): *Anchylostoma* delle Chiajo—Rendicon, dell'Accad. delie Sci. Napoli, v. 5, p. 339. [Not verified].

1850: *Anchylostoma* Dubini, Entozoografia umana, pp. 102-112; for *Anchylostoma* Dubini, 1843.

1851: *Anchylostomum* Diesing, Systema helminthum, v. 2, p. 82; for *Anchylostoma* Dubini, 1843.

1851: *Anchylostomum* Diesing, Systema helminthum, v, 2, pp. 321-322; for *Anchylostoma* Dubini, 1843.

1879: *Anchilostoma* Bozzolo—Osservatore, Torino, v. 15 (24), 17 giugno, pp. 369-370; for *Anchylostoma* Dubini, 1843.

1895: *Anchylostomum* Stossich—Boll. Soc. Adriatica di sc. nat. in Trieste, v. 16, pp. 21-25; for *Anchylostoma* Dubini, 1843.

18—?: "*Anchylostoma* Dubini" of variouf authors; for *Acnhylostoma* Dubini, 1843.

1797: *Anchylostamum* Mœhlau—Buffalo M. J., v. 36 (8). Mar., p. 573. [Misprint for *Anchylostomum.*]

ed by a more or less globular esophageal bulb which possesses a triradiate chitinous armature. This kind of esophagus is common to the early stage of all members of the family Strongylidæ and also to numerous other free-living or parasitic nematodes. It is evidently a worm with an esophagus of this sort which was recently found in the earth taken from the New York tunnel excavations, and upon which was based the report that uncinariasis was present.

The embryo of the hookworm lives in water or moist ground. In its evolution the worm casts its skin four times, thus passing through five stages, and changes its structure so as to assume more and more the characters of the adult. During these changes the sexes become differentiated. Some of these changes occur in water or moist ground, and the rest after infection takes place.

DEVELOPMENT OUTSIDE THE BODY.

Segmentation.—The eggs develop best in the unaltered fecal matter, especially when this is well formed; not so well when it is more fluid in character. The addition of water retards the development, and if considerable water is added the eggs perish. Air is necessary to development, and the eggs nearer the surface of the feces segment more rapidly than those in the center. At a temperature of about 27 deg. C. the embryo may form and escape from the shell in twenty-four hours. Lower temperatures retard development, so that at 21 deg. or 22 deg. C. the embryo may not escape for from thirty-six to forty hours; 1 deg. C. kills the eggs in twenty-four to forty-eight hours, so that freezing weather may be looked upon as disinfecting areas exposed to the cold.

Embryo.—Upon escaping from the shell, the embryo measures 0.3 mm. in length; the anterior end is blunt, the tail long and pointed; 6 points are visible around the mouth, and these develop later into the papillæ; the buccal cavity is 10 *m* long, 1.4 *u* in diameter, and possesses a highly refractive chitinous membrane; the anus is 50 *m* from the tip of the tail; excretory pore 50 *m* from anterior end; 160 *m* from anterior end is seen the primordium of the genital system.

In this stage the embryo takes food and grows. About the second or third day the embryo casts its first skin, but does not change its organization. After about four or five days (at 27 deg. C.) it measures 480 *u* long by 30 *m* in diameter.

Second stage.—After the fifth day the young worms begin to show signs of a second ecdysis, at the same time undergoing certain other changes. Three minute lips, each with two very delicate papillæ, appear under the skin at the anterior end; the brightly refringent cuticular lining of the buccal cavity and the chitinous teeth of the esophageal bulb disappear; the esophagus elongates, becomes thinner, and its three divisions become less distinct; the tail becomes slightly shorter and more blunt: the anus lies 90 *m* from the tip of the tail. The organism becomes more motile, and contracts from its outer skin, thus forming the stage which has been described as an "encystation," but which in reality is simply a second ecdysis. This is the infecting stage of the hookworm, and ends the development so far as the free life is concerned. No more food is taken. In some cases, however, the worm escapes from the surrounding cast skin. While water is more or less injurious to the egg and the first stage, the infecting "encysted" stage exists well in this medium, and Looss (1897) succeeded in keeping these worms alive for thirty days in water. Upon drying up the larvæ die, so that the view that the worms exist in dust and are carried around in the air, thus leading to infection, is not well founded.

DEVELOPMENT INSIDE THE BODY.

Upon being swallowed these young worms undergo further ecdyses, changing their internal organization at the same time. We may recognize, with Looss, a third stage, without buccal capsule; a fourth stage, with a provisional buccal capsule; finally, a fifth stage, with the definite buccal capsule, corresponding to the adult form.

Third stage (*without buccal capsule.*)—During their free life the larvæ may attain 0.65 to 0.7 mm. in length by 25 tó 27 *m* in diameter (at the end of the esophagus). The esophagus is 160 *m* long, and its three divisions may still be distinguished. The intestine is composed of about 15 rows of two cells each.

Fifteen hours after infection of dogs the worms have passed below the stomach. They now begin to feed, but their growth is comparatively slow. After about five days they begin to show signs of a third ecdysis, which continues until about the seventh day. During this period important changes take place, especially at the anterior end, and result in the formation of the provisional buccal capsule.

Fourth stage (*with provisional buccal capsule.*—This is the fourth larval stage, namely, the stage after the third ecdysis. The worms have not increased notably in length, but certain organs are advanced in development, and the esophagus no longer shows its former three divisions. The worms measure about 0.66 mm. long by 25 *m* in diameter, the latter being nearly uniform for a greater part of the length. The provisional buccal capsule attains 40 *m* in diameter, and the mouth is bent slightly dorsal. Two pairs of teeth are visible at the base of the capsule—one pair situated dorsally, the other ventrally. During this stage the animal increases in length and thickness, the inner organs become better developed, the sexes become differentiated, and the definite buccal capsule forms at the anterior end. With these changes the parasite prepares for its last—namely a fourth—ecdysis, which occurs about fourteen to fifteen days after infection.

Fifth stage (*with definite buccal capsule*).—The worm is now about 1.9 (male) to 2 *m* mm. (female) long, 12 to 14 in diameter—very much smaller than the adult forms. It is estimated that the parisites require about four to five or six weeks from the time of infection to become mature.

SOURCE OF INFECTION OF UNCINARIASIS.

The worms may be swallowed in contaminated food or in drinking water during or after the second ecdysis. Persons handling dirt are especially apt to get the microscopic worms on their hands, and it is an easy matter to transfer them to the mouth, either directly by biting the finger nails or sucking the fingers, or indirectly with food. In prevention, therefore, careful personal habits and pure drinking water are indicated.

Looss (1898, 1901) recently suggested that the larvæ may enter the human body by way of the skin and then pass through the body to the intestine. Startling as this view is, Looss has recently demonstrated the correctness of it.

BRIEF REVIEW OF UNCINARIASIS.

Uncinariasis is by no means a new disease. According to Sandwith (1894), a medical papyrus, written about three thousand four hundred and fifty years ago, embraced in an encyclopedic form the knowledge at that time of Egyptian teachers. This oldest of all books among medical works (Eber's papyrus) came into the hands of Professor Ebers at Thebes, in 1873, and has recently been translated into German. Dr. Joachin (1890) and Scheuthauer (1881) agree that anemia, due to hookworms (*Anchylostoma duodenale*), was well known to physicians in those days under the name of "AAA" and "UHA." The papyrus describes accurately among the symptoms, "heart weakness, palpitation, stabbing cardiac pains, constipation, edema of the legs, a weight of the body pressing heavily, and other digestive troubles." It further prescribes a remedy for a patient who has in his body worms, which are produced by the "AAA" disease, and possibly it is the hookworms which are referred to.

Within modern times this special form of anemia was described in Brazil by Piso in 1648; Labat (1742 or 1748) observed it in Gaudeloupe, Chevalier (1752) in St. Domingo, Dazille and Bason (1776) in the Antilles, and Edwards (1790 or 1793) in Jamaica. In Europe, the disease was first noted among the miners of Anzin in 1802.

Not until 1843 was the parasite (*Anchylostoma duodenale*) described, when Dubini of Milan published an account of it. Later it was reported from Egypt, France, Germany, India, Ceylon, Japan, Australia, and elsewhere, and to it was attributed a certain widespread anemia of brickmakers, tunnelers (St. Gothard tunnel anemia), and miners.

Zinn and Jacoby (1898), who have compiled 464 bibliographic references to the disease, give two charts showing its distribution at the time their paper was published.

In studying the maps, it will be well to recall that at the time they were printed nothing was known regarding the relations of uncinariasis to the soil, hence, the areas which are given as infected are probably much greater than the actual extent of the infested territory; further, the maps would indicate that they have registered the places in which hookworm disease has been diagnosed, and not necessarily the areas in which hookworm infection occurs.

In connection with their references to the United States, they simply mention Georgia, Alabama and Louisiana, saying that there is little to report upon this subject for these localities. For a review of hookworm disease in the United States, I would refer you to my "Report" in Bulletin No. 10 of the Hygienic Laboratory, U. S. Public Health and Marine-Hospital Service.

As many of you are aware, I took rather an extensive trip through the Southern Atlantic States last fall, and I was able to prove that hookworm disease is rather common in this part of the United States, more particularly in the rural sand districts. The details of my itinerary you can obtain from my "Report." In North Carolina I visited the following places:

Virginia Copper Mine district, Southern Virginia and Northern North Carolina.—Proceeding to the Virginia copper mine district, I found it very difficult at first to obtain specimens for examination. At one mine 1 white male and 3 negro males were examined; all were negative except 1 negro 22 years old, who showed infection with *Ascaris lumbricoides*. At this mine defecation under ground is prohibited; it occurs in the surrounding woods at any place within a radius of about 50 meters from the shaft.

At a second mine three specimens of feces were taken at random from the woods; eggs of *Uncinaria americana* were found in one specimen, and ova of *Ascaris lumbricoides* in a second. The patients could not be traced. Specimens were then obtained from 4 white and 18 negro miners, the feces being taken without reference to the physical condition of the men. Of these 22 men, 1 negro 25 years old showed a light infection with *Uncinaria americana*, and inquiry developed the fact that he "had not been well for some time." His chief complaint had been "diarrhea." In two other cases, a white man 41 years old and a negro 34 years old, eggs of the eelworm (*Ascaris lumbricoides*) were found. At this mine defecation under ground is prohibited, and a box privy is located within about 50 meters of the shaft. The men prefer, however, to defecate in the surrounding woods.

I am indebted to Drs. F. D. Drewry and P. P. Causey, and to Mr. L. N. White, manager of the Person Consolidated Copper and Gold Mines Company at Durgy, N. C., for their kind cooperation in connection with my work in Virginia and vicinity.

Cumnock Coal Mines, *Chatham county*. —The miners at this place were so suspicious regarding my work that it was almost impossible to obtain specimens for examination. In fact only two specimens could be obtained from about 40 men. One of these, a white miner, 52 years of age, and in rather anemic condition, showed infection with *Uncinaria americana*. The other, a white engineer, 34 years old, gave negative results.

Sanford, *Moore county*—Specimens from four whites (2 males and 2 females), obtained by two of the local physicians, were examined with negative results.

Hookworm disease is not a new malady in this State, although its presence was not definitely recognized until last fall. Dr. Joseph Pitt, [1] in an article published in 1808, stated that malacia or dirteating "prevails mostly among the poorer white people and negroes, and originates in my opinion from a deficiency of nourishment." From his discussion it is quite evident that he was discussing hookworm disease, although he did not recognize its exact nature. This is the earliest article I have been able to find in American medical literature which deals with this subject.

C. H. Jordan[2] (1832), also, certainly had some cases of uncinariasis under observation when he discussed dirt-eating in Person county. Further, Dr. P. B. Barringer, now in the University of Virginia, certainly observed this disease as early as 1880, as is seen from the following letter which I have received from him:

"Dear Sir: I have just seen in the Marine-Hospital Service Public Health Reports your letter of October 22d, from Kershaw, S. C. I was for many years located in the district in which you have been working, and your letter has thrown an immense amount of retrospective light on what I saw there. My work was done in the early eighties, and yet I still remember many cases of pernicious anemia, which was accompanied in some cases by dropsical effusions and diarrhea, a combination I could not make out, and yet this must have been uncinariasis.

"Whole sections of the illicit distillers of Kings Mountain, in Gaston county, N. C., were affected, and the dirt-eating whites of this section seemed to have a malady different from those of the better class in the neighborhood. I tried a tannic acid preparation, which seemed to do more good than anything else, and I wish now I had tried Areca nut. By the bye, I also recall that my pointer dogs in this section seemed to be afflicted in the same way. During my stay in Gaston county, from 1878 to 1881, I lost two dogs, who used to follow me around to these houses, from an unknown disorder. * * * * * *

"I remain, yours, very respectfully,

"P. B. Barringer, *Chm'n*.

"Dr. Ch. Wardell Stiles, care Marine-Hospital Service, Washington, D. C."

Thus it is clear that North Carolina physicians were among the pioneer observers of this malady in the United States, and although they did not recognize the exact nature of the disease, we should not forget to give them full credit for their observations.

SYMPTOMATOLOGY OF UNCINARIASIS.

In connection with the symptoms, let us recall that uncinariasis is caused by hookworms about half an inch long which live in the small intestine for several meters below the stomach.

These worms fasten to the mucosa and suck blood, They lay numerous eggs, which can be found by a microscopic examination of the stools. The number of eggs in the feces and, in a general way also, the severity of the symptoms will vary with the number of parasites present and with the duration of the infection.

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[1] Obeservations on the country and diseases near Roanoke River, in the State of North Carolina: Med. Reposit., N. Y., 2 hexade, v. 5 (4), Feb.-Apr., pp. 337-342.

[2] Thoughts on Cachexia Africana, or negro consumption; Transylv. J. M., Lexington Ky., v. 5 (1), Jan.-Mar., pp. 18-30.

The injury to the patients results from the following factors: (1) Sucking of blood by the parisites, which is a constant drain on the system; (2) loss of blood into the intestine through the minute wounds made by the parasite, a factor which also tends to deplete the system; (3) the wounds form points of attack for bacteria, hence increase the chances of bacterial infection from partly digested and decomposed food; (4) the wall of the duodenum and jejunum becomes thickened and degenerated, and its function is thus decidedly interfered with; (5) the parasites in all probability produce a poisonous substance which acts upon the patient.

Theoretically there is only one sign which is present in every case, namely, the presence of one or more parasites in the intestine. If these worms are in an egg-laying stage ova will be found in the feces. But from a practical standpoint, severe cases present what seems to be a characteristic type, and even medium cases often present a more or less typical clinical history.

The statement is not infrequently made that there is one way and only one way to diagnose a case of uncinariasis, namely, by examination of the stools to find the parasites or their eggs.

Academically this statement is more or less correct, yet practically it should be somewhat modified. Sandwith (1894, p. 13), to quote from a clinician, states that "facies of the patient is characteristic, though it is difficult to describe his discontented, harrassed expression, which sometimes changes to a ready smile after a month's stay in a hospital." The data at my disposal would lead me to divide the cases of hookworm disease I have observed into three general but not very sharply defined classes, namely:

(1) *Light cases*, including those in which practically no distinct symptoms of the disease are noticed, but in which a few hookworm eggs are discovered in the stools. We may also place here a number of cases in which, in addition to the presence of eggs, there is a slight diarrhea or some other slight symptom, including more or less rapid exhaustion after physical exertion, hence an indisposition to work, which is usually interpreted as laziness. Cases of this class are found in the infected areas and elsewhere, since infected people may move away from the sand districts.

(2) *Medium cases*, including those in which the disease has progressed to such an extent that a more or less anemic condition is noticed, but other symptoms are not especially marked. If these patients were found outside the infected area, the diagnostician (especially if he is not familiar with the disease) would probably not see anything particularly characteristic in them; many of these cases, however, show a more or less typical history, and if a history of residence upon sandy soil in tropical or subtropical regions can be obtained, uncinariasis should certainly be strongly suspected. If these cases occur in a family which also presents severe cases of uncinariasis, the diagnosis of hookworm disease in the medium cases is usually quite safe, even if a microscopic examination is not undertaken.

(3) *Severe cases*, in which we find that striking set of symptoms which even the laity in our Southern States attributes to "dirt-eating." These patients present a facies which is well recognized by Southern physicians. If the patient is found in a Southern sand area, the diagnosis is practically certain. If found outside of the infected area, with a history of previous residence in a Southern sand district, its recognition symptomatically ought not to be attended with difficulty. In case of doubt, if a microscope is at hand, the test may be made in less than five minutes; if no microscope is at hand, the blotting paper test will frequently suffice.

Turning now to an analysis of symptoms, I will give my observations on the severe cases. It is needless to state that the symptoms discussed may vary in intensity, and that not every symptom mentioned is found in every severe case. We find on the contrary an imperceptible gradation between the severest and the lightest cases.

GENERAL PREDISPOSING FACTORS.

Infection Occurs Chiefly on Sandy Soil.

In connection with the clinical history, the residence on sandy soil is undoubtedly one of the most important points to be obtained. If an anemic patient gives no history of temporary or permanent residence on a sandy soil, uncinariasis is not absolutely excluded, but according to my experience the chances are against it. If on the other hand a history of sojourn or residence in a sandy rural district is obtained, the probabilities of uncinariasis are decidedly increased.

Nearly every case of the disease found during the entire trip was either living at the time in a sandy district or had lived in such a place a few years previously. As soon as I entered the sandy areas, uncinariasis was found. As soon as I left the sand, as at Albany, local foci of infection of uncinariasis disappeared.

Inquiry among physicians at first failed to elicit any definite statement regarding the soil on which anemia was most frequent, but upon going further South several physicians were met whose experience fully confirmed my observations on this point. One physician in particular, Dr. A. M. Burt, of Macon, was of the emphatic opinion that in bringing the condition which I have interpreted as uncinariasis into connection with the sandy soil, I had found the keynote to the distribution of the entire disease. Dr. McHatton, of Macon, called my attention to the fact that in antebellum days the slave owners in the Lower Mississippi Valley frequently provided special quarters, which were removed from the sand districts, and to which they sent the dirt-eating and other sick negroes and also negresses about to be confined, the view being held that a clay soil was more salubrious than a sandy soil. This view, in fact, I found to be rather prevalent among the farm hands. Time after time they remarked, "We were never sick so long as we lived in a clay district," "This disease developed after we moved upon sand," etc.

This view that uncinariasis follows the sand is supported by evidence obtained in Alaska by Mr. F. A. Lucas. After the discovery was made that uncinariasis, caused by *Uncinaria Lucasi*, was prevalent among the seal pups, Lucas showed that it was practically only the seals on the sandy rookeries which were infested with the parasites.

As stated above, I have also observed two outbreaks of uncinariasis among sheep and goats, caused by *Uncinaria trigonocephala* (Rudolphi, 1809) Ralliet, 1900, on more or less sandy soil, and have further confirmatory facts in connection with one outbreak of the disease among dogs. Since returning from my trip, I have found at least one reference in literature on uncinariasis and ground itch to the effect that the soil in districts where certain cases have occurred was more or less sandy, but I have not yet found that any author lays stress upon this point.

In view of all the data at hand, I have no hesitation in expressing the opinion that uncinariasis, caused by *uncinaria americana*, is pre-eminently a disease of sandy localities, and that most of the severe cases found in clay or rocky areas can usually be traced to a former visit or residence in a sandy place.

Just why this disease should follow the sand rather than the clay is not absolutely clear. Three explanations have occurred to me as working hypotheses which, though not absolutely satisfactory as final, will, I believe, explain part of the mystery.

(1) We know that uncinariasis is spread through the feces; we know further that when the embryos hatch from the eggs they leave the feces and enter the surrounding water or moist earth, while there is no satisfactory evidence to show that they are blown around in the air in a dry state. Now, assume that a person walks over infected ground; if that ground is clay he does not disturb the embryos which have crawled beneath the surface, except in wet places; if, on the other hand, the ground is sand, he not only stirs it up while walking, thus bringing the young worms nearer the surface again, and thereby increasing their chances of producing an infection, but he is likely to carry away particles of sand, together with embryos, with him on his shoes or feet, thus increasing his chances of becoming infected. It is further clear that children playing in sand will stir up more embryos than when playing on a clay soil, and will thus increase their chances of infection.

(2) An additional explanation is that water will not pass through clay as it will through sand; hence on clay soil the embryos stand a greater chance of perishing or of being washed by rain into the streams. On sand, however, the embryos might perhaps work their way through the soil (*a*) with the water, and thus infect surface wells. In advancing this hypothesis, I am not unmindful of the view, supported by excellent observers, that, since the embryos sink in water, drinking water is not necessarily a common source of infection. Granted that they do sink in water, a water bucket in a well also sinks, and the water from surface wells frequently contains sand particles that are heavier and larger than Unciniaria larvæ; hence we cannot altogether ignore the drinking water as a possible source of infection. If, on the other hand, drinking water were the only source of infection, it is probable that in families where uncinariasis exists the intensity of the disease would show a greater tendency to uniformity.

Giles has examined 56 specimens of water from wells and ponds of villages affected with hookworm disease, and 16 of these he found by chemical and microscopical exam-

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a In an article which has recently appeared, Looss (1903, p. 331) says: "Further, during the six years of my residence in Cairo [Egypt], I have not heard, up to the present time, of a single case [of hookworm disease] in an European (my own case, of course excepted). This fact speaks all the less [so much the less] in favor of the assumption of a more common dissemination [i. e. infection] of the disease through the drinking water, vegetables, etc., since [as] *the mature hookworm larvæ, as experiments have shown, pass through the ordinary sand filter with surprising rapidity, and that even when the water is allowed, not to run off, but to stand.*" [Italics not in the original German.]

ination to be "bad" or "very bad." Yet on only one occasion did he find a rhabdite of doubtful origin in water. (Sandwith, 1894, p. 9.)

(3) Oxygen is necessary to the development of the embryos and larvæ, and it does not seem unreasonable to assume that sand would on that account present more favorable conditions for the growth to the "encysted stage," and probably also a longer preservation of that stage.

In this connection it may be noted that Looss has used charcoal as a medium in which to cultivate the larvæ of *Anchylostoma duodenale*.

Infection Occurs Chiefly in the Rural Districts.

Since the infecting agent of uncinariasis is spread through the feces, we may expect to find infection taking place (other things being equal) in localities where the fecal matter is not properly disposed of. Furthermore, we would not expect that paved streets or grass lawns would favor the development of the disease. We need not, therefore, expect local foci of infection to occur in cities and towns which have proper sewerage systems and in which the streets and walks are paved and the yards sodded; but we may expect to find local foci of infection in localities where box privies are used but not properly cared for, or where promiscuous defecation occurs in the woods, fields, mines, etc. This condition is in fact exactly what is found. While uncinariasis is not entirely absent from those premises on which the feces are properly disposed of, in cities like Washington, Richmond, Charleston, Macon, Jacksonville and Ocala, such cases as are found can not be shown to have developed there; but probably in most every case they can be either probably or positively shown to have been contracted elsewhere. In a number of cases I have established this point with a probability, which for all practical purposes may be looked upon as a certainty. We may therefore exclude the greater portion of the inhabitants of sanitary districts of cities from consideration in connection with uncinariasis, and may with confidence lay down the general rule that any anemia developing in them as result of local infection (namely infection at home) is much more likely to be due to malaria or other causes than to uncinariasis.

As we approach the outskirts of cities and towns and enter the rural districts, localities in which box privies are used but not always properly cared for, we meet with conditions which are more favorable to infection with the hookworm disease. Accordingly, in cases of anemia, especially in women and children, developing in such localities, uncinariasis must be taken into consideration as one of the possible causes.

Sandwith (1894) states that his patients came from all parts of Egypt, except some of the seaport towns.

As we go into the country and visit the farms we not infrequently find a condition, in respect to the disposal of fecal discharge, which almost beggars description. Taking the rural districts visited during my recent trip as example, it is not an exaggeration to say that with the exception of the planters' premises, not over half of the country houses or huts of the sand regions have any privy at all; if there is one present, it is rarely properly cared for; furthermore it is the exception rather than the rule that it is used. As a result, uncinariasis is widespread, not because the country air is particularly favorable to its development, but simply because so little attention is paid to the proper disposal of the fecal discharges.

Symptoms are more Severe in Summer than in Winter.

It is almost universally conceded that the patients are in better condition in winter than in summer. According to testimony, the symptoms begin to increase in the spring and to decrease in the early winter. This periodicity will be noticed, of course, only in localities which are above the frost line, and it is easily explained when we take into consideration the biology of the parasites. Cold retards and heat hastens the development of the eggs and the embryos; a freezing temperature of 24 to 48 hours' duration, it is said, kills both eggs and embryos. Accordingly, after frost sets in in the fall, the patients will add less to the infection which is present in their bowels than they will during the summer. Some of the worms already in the intestine will be passed, thus decreasing the number of parasites present; the patient will accordingly lose less blood, and will on this account feel somewhat better. As warm weather begins in the spring the free eggs and embryos will develop more rapidly and the infection will be increased. There will be more parasites in the intestine, hence symptoms will be augmented.

Some few patients, however, insist that they are better in summer than in winter.

It is probable that the seasonal periodicity of the symptoms noticed in our Southern States will be modified in the Tropics, so that the symptoms will increase in severity in the rainy season and decrease in the dry period of the year. Such a periodicity would correspond to the biologic fact that the eggs and embryos perish very quickly upon becoming dry.

In patients who are not subject to continued infection, as for instance those who have left the area of infection, the seasonal periodicity may be expected to disappear.

Whites Appear to be more Severely Affected than Negroes.

Osler and other observers have already noticed that chlorosis is more frequent in blondes than in brunettes.

Uncinariasis occurs in both blondes and brunettes, and in both the white and the negro, but so far as my observations go the disease is more severe, *or at least more noticeable*, in blondes than in brunettes, and much more severe, as a rule, in the white than in the negro. This observation was supported by all the evidence I could gather from local physicians. In fact, several practitioners declared that they had never seen a case in a negro to recognize it. There is, however, abundant evidence that such cases do occur.

I am at a loss for a satisfactory explanation of the comparative freedom from uncinariasis noticed in the negro. They live under the same conditions as the poorer classes of the white population, except that as a rule the negro farm labor is more common in the rich than in the sand districts; however, negroes also live in infected districts. It is true, as frequently claimed, that some of the negro habitations are more clean than some of the homes of the poorer whites. Still, not all negro huts are cleaner than all white huts. The personal habits of the negro children are certainly no more hygienic than those of the white boys and girls.

One factor which may possibly play a role in this comparative freedom from the disease on the part of the negro, is the fact that negro women very frequently give their children "worm tea," made from certain plants, in order to expel the "eelworm" (*Ascaris lumbricoides*), or they give calomel "to regulate the liver," and this may perhaps also result in expelling the hookworms before the latter have had an opportunity to do much harm. Still this explanation is not altogether satisfactory, especially in view of the testimony of both the local physicians and the negroes themselves to the effect that eelworms are much less common now than formerly, hence "worm tea" is not taken so frequently as in former years.

Chabert (1821a), Jordan (1832), Imray (1843), LeConte (1845), Duncan (1850), and other authors, report "dirt-eating" among the negroes. In fact, nearly all early authors who describe "dirt eating" lay special stress on the frequency of the habit among the slaves.

In conversation with a negro druggist, I was informed that while dirt-eating was formerly said to be more or less prevalent among the negroes, it was an acknowledged fact among them that the custom had greatly decreased in recent years. In connection with this statement we may note the interesting claim by Cotting (1836a) that there was a reduction in dropsy and dirt-eating corresponding to the more general use of calomel.

Sandwith remarks upon the apparent comparative freedom of the negro from uncinariasis and anemia. Zinn and Jacoby (1896) also refer to the frequent presence of *Anchylostoma duodenale* in negroes of Africa, in whom the anemia was not prominent.

Can it be that the poison produced by the hookworms has less effect upon negroes than on whites, and that on this account the disease is less severe in the dark races?

Occupation of Patient.

It is generally acknowledged by writers on uncinariasis that the disease is especially prevalent among people who in their daily work come in contact with earth. In fact, the malady is sometimes called "brickmakers' anemia" or "miners' anemia." Sandwith mentions "peasants" as apparently forming the majority of his patients.

In my own work I was surprised to find that hookworm disease was comparatively light and comparatively rare among the miners I examined. Of brickmakers my statistics are too small to permit any generalization. Two examinations out of eight showed light infections. Most of my cases were from the farming classes.

Sandwith emphasizes the fact that his patients came from the poorest class of the community, and that of 200 men 190 were accustomed to work with their hands in more or less damp earth. Of these 190 men, 152 were agricultural laborers; 18 were masons or bricklayers' laborers; 7 were "scavengers of street refuse and of cesspools, accustomed to emptying with their hands the dry contents of the latter;" 7 were peddlers of unwashed vegetables; 3 limestone carters and scavengers; 1 gardener; 1 fisherman in the mud; 1 "shadouf" worker at the Nile bank; 1 coffee-stall keeper; 3 readers of the Koran; 1 blacksmith; 1 shoeblack; 4 beggers. Sandwith also mentions 20 cases among policemen, who dated their illness from periods of life when working as agricultural laborers.

Severe Cases are more Common in Women and Children than in Men over Twenty-five years of age.

The assertion is frequently made that uncinariasis is more common in men than in women and children. This statement may be perfectly correct in mines and brick-yards, but it does not hold good for the farming localities I visited, where the greater prevalence of severe cases in children than in adults, and in women and children than in men over 25 years of age, is very striking. The conditions found, in respect to this point, seem to be due to four factors in particular, namely: (1) The average family in the country districts numbers from, say, 6 to 12. As a rule, 2 or 3 of these can be called adults, and 3 to 9 can usually be classed as children (including minor boys and girls). Since there is a greater number of children than adults subject to infection, we should naturally expect to find a greater number of cases among the children, and our expectations are fully realized. (1) The fact that children and women present a greater number of cases than do the adult males over 25 years of age I am inclined also to explain on the ground that the former are at home more than are the men; the area immediately surrounding the house for, say, a radius of 50 meters, is a more common place for defecation than are the more distant fields, hence it is more severely infested with the infecting agent. Now, while it is true that, among certain classes, both women and children work in the fields, it is also true that they do this much less than the men. They are at home more, therefore they are on the more intensely infected area for a greater length of time; hence, in respect to actual time they are more subject to infection than are the men, and, other things being equal, they will present a greater number and a greater proportion of extreme cases. (3) The children in playing in the sand around the house, and owing to their more careless personal habits, are of course especially liable to infection. (4) The men being stronger, are, as a rule, better able to withstand the effects of infection. An interesting and important fact is that men of about 20 to 24 seem in many cases to more or less outgrow the effects of the malady. They give a history of medium or severe infection from, say, 10 to 18 years of age, then at 18 or 20 they begin to improve, and finally appear much better, although their features and physique still show the effect of former disease. This time of improvement corresponds to the years following their first most active participation in work which takes them more away from the house, hence to years when they are subjected less constantly to infection.

Sandwith states that nearly all of his 402 patients were in the prime of life, between 20 and 40 years of age. His youngest case was a boy of 6 years; 48 patients were between 10 and 20 years of age; 170 patients were between 20 and 30 years of age; 140 were between 30 and 40 years of age; 21 were between 40 and 50; 15 were between 50 and 60, and 7 were above 60.

Giles reports a case of a girl 4 years of age. My youngest patient was three years old.

Of Sandwith's 402 cases only 4 were females. This statement is in striking contrast to my observations. Sandwith and I made our studies, however, under totally different conditions, for his patients came to his hospital, while I went to the homes of the infected persons. Possibly this will explain, in part, our different results, for he states that "women have not yet learned to apply for hospital relief in the same proportion as the men."

Several Cases are Likely to Occur in the same Family.

Uncinariasis commonly occurs in groups of cases. If one child in a family is accused of being a "dirt-eater," and is shown by physical and microscopic examination to represent an extreme case of uncinariasis, an examination of the remaining members of the family will usually show that most or all of them are suffering from anemia in different degrees, and the microscope will disclose infections with Uncinaria. This condition of affairs is so general that it may be looked upon as the rule among farming classes, while the occurrence of isolated cases in a family, except possibly among miners, may be looked upon as the exception. Numerous observations could be cited in support of this view; for instance, in the first family examined in the sand district near Haile Goldmine only one member had the reputation of being a "dirt eater," but all 11 were in different stages of anemia. In a family of 10 members on a neighboring plantation only 1 was noted as a resin-chewer, but all 10 were anemic. In orphan asylums it was noticed that if two or more children of one family were present and one child was affected, the other children were also affected. In fact, in every instance where I was able to examine the family to which an alleged "dirt-eater" or "resin chewer" belonged, all or nearly all the members of the family showed an anemia with the general history of uncinariasis, and in every case examined microscopically the eggs were found.

Two families may, however, live very close together, and one family may show several severe cases while the other may not show a single case severe enough to be suspected symptomatically. Thus, on one plantation all the hands examined showed uncinariasis, while the planter's family, of much more cleanly personal habits, did not exhibit any signs of infection. It is, however, more common to find that where one family is affected other families of the same neighborhood will show infection, provided of course that the infected family in question has not moved into a city or a clay district.

The occurrence of cases of uncinariasis of different degrees of intensity in family or neighborhood groups is easily explained by the fact that in a given family or neighborhood all persons are subject to the same general conditions of infection, but owing to differences in age, daily occupation, personal habits, etc., some will be more subject to infection than others.

OBJECTIVE AND SUBJECTIVE SYMPTOMS; ANALYSIS OF SYMPTOMS.

It is difficult to draw a distinct line between the subjective and the objective symptoms. If a patient is left to tell his own story, practically all that the observer will learn is that the patient "feels weak, has a headache, gets dizzy, has fluttering of the heart, finds it hard to breathe, feels worse in summer than in winter, and has 'misery' in the 'stomach.'" In medium cases a few judicious questions, directed more to the parents than to the patient, will as a rule bring to light a history upon which, taken in connection with what one can himself observe, a probable diagnosis may be made. As a rule, little weight can be placed upon the statements made by a patient suffering from an severe infection of uncinariasis. He will answer "yes" or "no" in a most contradictory manner, so that by putting questions in different ways it is practically possible to make him admit or deny, as desired, any particular symptom. It is chiefly from the patient's family that one must judge of what the person has complained.

Onset and Incubation.

As it takes the parasites four to six weeks to reach maturity after entering the system, the earlier symptoms will be more particularly gastro-intestinal, and even if these are present in a marked degree we can not look for a diagnosis by microscopic examination of the feces until the worms begin to lay eggs. It is, however, not excluded that some of the young worms might be passed in the stools and be identified, though such a chance is probably more theoretical than practical. In an experimental case of infection through the skin, Looss showed that eggs did not appear in the feces until 71 days after infection. According to Sandwith (1894, p. 12), Surgeon-Major Giles suspected that many of his patients in Assam had suffered from fever at the onset of their malady, and he was confirmed in this impression by observing pyrexia in the monkeys fed on hookworm embryos.

Looss (1897, pp. 914-915) noticed nausea as the first symptom in dogs to which he fed the larvæ of *Anchylostoma duodenale.*

Bentley (1902 a) practically advances the view that "ground itch" is the primary symptom, and since Looss's view of infection through the skin is correct, at least for some cases, some cutaneous symptom must in such instances be the first symptom of uncinariasis.

Stages of Uncinariasis.

Since my observations of each patient were confined to one or two days, they would not justify me in dividing the disease into stages. Lutz (translated by Macdonald) recognized the following stages:

I. *Stage of Purely Local Symptoms.*

(*a*) *Acute form;* (*b*) *chronic form.*—The symptoms are similar in both forms. The disease is yet limited to pains and disordered digestion; no pallor, no rise of pulse.

II. *Stage of simple Anemia or Oligocythemia* (Chlorotic stage).

(*a*) *Acute form.*—1. Slight degree: Conjunctival vessels still visible; nails and lips pale red; pulse increased in frequency; no blowing murmurs over cardiac area.

2. Higher degree: Conjunctive devoid of vessels; nails whitish; lips pale; pulse frequently very much increased; no blowing murmurs.

(*b*) *Chronic form.*—Anemia has not reached the highest degree. In many cases distinct cardiac hypertrophy and dilatation; in other cases disordered valve closure; seldom both combined. Moderate increase of frequency of pulse.

III. *Dropsical Stage.*

(*a*) *Acute form*—A high degree of anemia; pulse small, much increased in frequency; no blowing murmurs; edema of a hydremic character.

(*b*) *Chronic form*—Symptoms of cardiac defects, with disturbed compensation, or of fatty degeneration; distinct symptoms of cyanosis; dropsy of engorgement; anemia of varying intensity; disordered nutrition.

Duration of Uncinariasis.

In speaking of the duration of uncinariasis, we should clearly distinguish between the duration of cases which remain in the infected areas and the duration of cases which after once becoming infected move to uninfested districts where conditions are such that reinfection is excluded.

In the former instance we have to deal

with cumulative infection, taking place week after week and year after year, hence successive generations of parasites come into consideration.

In the latter instance we have to deal with the individual life of the parasites which are present in the patient at the time he leaves the infested area.

A failure on the part of most observers to distinguish between these two classes of cases renders the published data less valuable than they otherwise would be in determining the duration of uncinariasis.

In my own observations, I have found people remaining in the infested areas who gave a history of the disease extending back for ten, twelve, or even fifteen years. I have further three observations which I consider free from criticism in connection with patients who presented the disease six years (2 cases) and even six years and seven months (1 case) after being removed from the source of infection. I also have one observation, which is not free from criticism, upon a patient who showed the disease ten years after entering a hospital.

Sandwith (1894 p. 15) in discussing the duration of illness says:

"Nearly every patient said he had been ill two or three years before admission. I find among my notes 29 cases, uncomplicated by other diseases, where the patients said they had suffered more than 3 years. Of these, 13 had been ill for four years, 6 for five years, 3 for six years, 2 for eight years, 2 for nine years, 2 for eleven years, and 1 vowed it was fifteen years since the commencement of his symptoms.

"It may be safely said that during these long intervals of time very few patients had any rational treatment."

It is probable that Sandwith's cases were subject to cumulative infections.

Length of Life of the Individual Parasites

It is already established that for every hookworm which is present in the intestine a separate embryo must enter the body. In other words, the eggs which the female worm deposits in the intestine will not develop there to mature parasites, but must first be discharged in the feces and undergo certain changes.

It is further clear that direct autoinfection, such as takes place in the case of pinworms (*Oxyuris vermicularis*), is excluded. For instance, suppose a child is at stool and soils his fingers with the feces, which contain hookworm eggs, then puts his fingers into his mouth and swallows the eggs; these ova will not develop in the bowels into adult worms.

Whether an uncinaria egg, which happened to get under the finger nails, could reach the larval infecting stage in that place is perhaps an open question. So far as I am aware, the point has never been studied, but what is already known about this group of parasites does not lead me to believe that such a condition would be especially common, although it does not seem absolutely impossible.

With the foregoing premises in mind, it is important to determine how long the parasite in the intestine can live. Regarding the American hookworm, *uncinaria americana*, I can present the following data: Of children at the Charleston Orphan Asylum in whom I demonstrated the presence of Uncinaria americana microscopically, it may be noted that 8 children had been in the orphan asylum two years or less; 4 children had been in the asylum between two and three years; 2 children had been in the asylum six years; 1 child had been in the asylum six years and seven months.

I have selected the Charleston Orphan Asylum as best fulfilling the conditions desired to illustrate the point at issue. The refined discipline, the scrupulous cleanliness, and the general hygienic conditions noticed are such that local infection is practically excluded. It must be admitted that some persons coming in from the country might possibly bring on their shoes a few embryos, but such a theoretical possibility is altogether too remote to explain the 15 cases found.

For all practical purposes we are justified in assuming that the hookworms which these 15 children had in them when I saw them were the same individual worms which were in the children when the latter entered the asylum, and from the data obtained it is clear that hookworms of the species Uncinaria americana are capable of living six years and even six years and seven months.

A sixteenth child (case of L. B.) examined showed a clear clinical history of uncinariasis of long standing. Her condition at the time of entering the institution, as described to me by Dr. Huger, and her present complexion, eyes, stunted growth, and inferior mental development, leave no practical doubt in my mind regarding the diagnosis. No normal eggs were found in her stools, despite the fact that I made 25 slides. One slide showed a single abnormal egg which had evidently been dried and had clung to the slide after an examination in some other town. I do not know this girl's complete therapeutic history during the past twelve years, but from the absence of eggs in her stools it is necessary to conclude either that the worms had been expelled by the drugs taken, or else Uncinaria americana is not able to live twelve years.

Ashford (see Stiles, 1902, p. 210) mentions a case where a boy "had been the host of the worm for probably ten or fifteen years," but he does not state that during this time the patient was not exposed to further infection.

The clinical importance of the length of the life of the parasite is self-evident. Suppose a physician in the North has an anemic patient, or a physician in the South has an anemic patient who lives in the city or in a clay district; it is not sufficient to inquire whether he or she has recently been exposed to malaria, but inquiry should extend for eight or more years back in order to develop the fact whether she has during this time visited any tropical or subtropical sand area. If such a fact develop, uncinariasis is among the probabilities, and a microscopic examination of the feces should be made.

GENERAL EXTERNAL APPEARANCE.

General Lack of Development—Stunted Growth.

In severe cases of long standing the patient is undeveloped both physically and mentally. A boy or girl 12 to 14 years old may be as small as the average child of 6 or 8; a young man or woman of 18 to 22 years old may present the general development of a child 12 to 16 years of age, but the face may appear either like that of a very old person, especially like that of an elderly dwarf. Similar conditions have been described as a symptom of dirt-eating.

Skin.

The skin has an anemic, waxy white to a yellow or tan, shriveled, parchment-like or tallow appearance. In general it is that color known in the South as a "Florida complexion." In some cases of malaria, if one trusts too much to the appearance of the skin, he is likely to be misled into an erroneous diagnosis of uncinariasis, but the general clinical history is usually sufficient to distinguish between the two diseases, while the microscopic examination gives a positive diagnosis. (See, also, Temperature).

Wounds heal slowly.—Among the first severe cases of uncinariasis found, I noticed that several of the patients wore bandages. Suspecting the possibility of ground itch, and recalling Looss's and Bentley's theories (see below), I immediately inquired into the history of the sores. According to the testimony of the patients, the ulcers present had started as small wounds produced mechanically; the wounds had failed to heal promptly, had grown worse, and were now about a year old. This same story was related to me by quite a number of patients, and many other persons suffering from uncinariasis assured me that in their cases cuts and bruises healed very slowly, testimony which was repeatedly corroborated by local physicians.

Cutaneous lesions caused by uncinariasis.—The statements just made lead to a consideration of certain views recently advanced by Looss and Bentley.

Looss's Theory of Cutaneous Infection—Looss (1901) has shown that if a drop of water containing embryos of Anchylostoma duodenale is placed upon the skin an itching sensation is produced; the worms enter the hair follicles, and from there they seem to bore into the surrounding tissues. Looss further advanced the startling opinion that the larvæ then reached the intestine, and he recounted observations which gave a certain amount of plausibility to this view. More recently (see Sandwith, 1902), Looss has performed experiments which, so far as can be judged at present, demonstrate the correctness of his theory. According to Sandwith (1902), Looss (*a*) smeared on the back of a puppy a mixture of charcoal and feces in which hookworm larvæ had been bred. Between nine and ten days afterward the puppy died and was found to have anemia of most of his organs, and a plentiful supply of young hookworms was found in his jejunum. A second puppy was treated in a similar way, and also died on the night between the ninth and tenth days. Upon post-mortem he also showed exactly the same results. A man who offered himself for experiment was also similarly treated on his forearm, and in his case the first hookworm eggs were discovered in his feces on the seventy-first day. In all three experiments the feces were regularly examined for some weeks prior to the experiments, so that, so far as we can now judge, the results must be accepted, despite their very startling nature. Furthermore, Looss is known as too careful an investigator to permit any foreseen error to creep into his conclusion.

Somewhat similar results, namely the entrance of embryos into the skin, have been obtained by van Durme (1902, pp. 471-474) in experiments with *Strongyloides stercoralis* on guinea pigs, and it is needless to insist on the great importance of Looss's demonstration.

Bentley's Theory of Ground Itch.—In line with Looss's views, Bentley (1902a)

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a Looss's (1903) article, detailing his brilliant experiments, has recently appeared. He demonstrates, beyond any question of a doubt, the correctness of his contention that infection with hookworms may take place through the skin.

has made certain exceedingly important observations and experiments, the logical conclusion of which, taken in connection with Looss's work, seems to be that at least certain forms of ground itch constitute the initial symptom of uncinariasis. Bentley defines ground itch as follows:

Ground itch—Synonyms: Panighao, water itch, water pox, water sores, sore feet of coolies—is an affection of the skin, confined entirely to the lower extremities, and probably always associated with the presence of the larvæ of Anchylostoma duodenale in the soil of the affected areas; endemic in Assam and West Indies and possibly present in other parts of the Tropics; characterized by its periodical epidemic appearance in the infected areas, coincident with the onset of the rainy season; with typical lesions consisting in a primary erythema, followed by vesicular eruption, which frequently becomes pustular and in severe cases may result in obstinate ulceration, or even gangrene."

Dr. Seheult (1900), of Trinidad, has suggested that the disease is probable due to some chemical irritant present in the soil, either natural or due to manure used in cultivation. Dr. Dalgetty (1901), of South Sylhet, struck by the resemblance which the lesions bear to scabies, and finding a mite present which he named *Rhizoglyphus parasiticus*, assumed this acarine to be the cause. These authors and Bentley (1902a) seem to agree that ground itch is a filth disease which is increased by the lack of care given to the proper disposal of alvine discharges.

Bentley (1902a) found in a water sore a young worm which he considered to be identical with Anchylostoma duodenale. He then performed the following experiments—

a. Some ordinary soil was sterilized by heat, and after being moistened with sterilized water was infected with a small quantity of fecal matter containing numerous ova of Anchylostoma duodenale.

b. A similar preparation of soil was infected with a small quantity of feces, which on examination was found to be free from hookworm infection.

These two preparations were incubated at the ordinary temperature of the air for about a week, when sample "*a*" was found to be swarming with larval hookworms and various forms of bacteria and fungi, and sample "*b*" was similar in appearance except that no hookworm larvæ were found.

Each sample was then divided into two parts, *a*' and *a*'' and *b*' and *b*''. Samples *a*' and *b*' were kept moist, while *a*'' and *b*'' were gently dried by exposure to the air for eight hours. Previous experiments had shown that six hours gentle drying at ordinary temperatures was sufficient to kill the hookworm larvæ. After remoistening *a*'' and *b*'' with sterilized water, the four samples were applied to the wrists of the subjects of experiment for eight to nine hours, and then they were removed. Fifteen hours after the first application, considerable erythema with a minute papular eruption appeared over the spot to which *a*' had been applied; within twenty-four hours a distinctly vesicular eruption had developed, followed by pustules exactly resembling those found in the lesions of ground itch. In the other cases a faint reddening of the skin was produced, which shortly afterwards disappeared. A re-examination of sample *a*' now showed that no live larvæ were present, although one or two dead worms were found. Sample *a*'' still contained the dead larvæ. Apparently. therefore, the live larvæ *a*' had entered the skin and their entry had been followed by lesions similar to those found in water sore.

According to Bentley, also, it is probable that the acuteness of the inflammation attending an attack of the ground itch is largely governed by the nature of the organisms which accompany or follow the larval hookworms in their passage through the skin.

Regarding the treatment of ground itch, Bentley says that in the papular and early vesicular stage of she disease the application of a strong solution of salicylic acid in collodion or methylated spirit will cause the eruption to dry up, and so cut short the attack of the disease to one or two days. If, however, pus has formed, the only treatment of any service is the opening up and disinfection of the pustules with pure carbolic acid, silver nitrate, or nitric acid, and the after treatment of the sore as an ordinary ulcer. In cases attended with great swelling, inflammation, and tendency toward the formation of sloughs, free skin incisions and the use of hot antiseptic footbaths are indicated.

Dalgetty (1901, p. 77) advises the application of a strong solution of lime and sulphur; strong phenyl solution is also beneficial, and a coating of coal tar acts for a time as a preventative against infection; but when once the vesicles have formed pustules are sure to follow, and then the only remedy is to open them, evacuate the pus, and thorough cleanse them.

An anonymous writer (? Dr. Elliot, of Assam) in the Journal of Tropical Medicine (1900) gives the following directions:

"The indications are to get the case as soon as possible; to carefully cleanse the foot by soaking it in warm antiseptic solutiin; then open the vessicles with sharp pointed scissors, snip the loose skin away, and finally wash the parts with carbolic acid solution (1 in 40), and treat the resulting ulcer with carbolic acid, phenyle oil, extract of paroli leaf, zinc ointment, etc., according to circumstances. The soaking, washing, and dressing operations are repeated once or twice daily, and the healing takes place in eight or nine days in favorable cases."

It will be noticed that Bentley does not definitely state that he adopts Looss's view of intestinal infection through the skin; nor does he definitely state that the hookworm larvæ act as anything more than carriers of bacteria. The conclusion would, therefore, seem to be that the ground itch with which he was dealing is a bacterial infection due very probably to fecal bacteria. *a* If this interpretation is correct, its *dependency* upon uncinariasis does not seem to be proved, although its occurrence with the disease would seem to be established.

Additional facts (besides Bentley's experiments) which support the view that the ground itch, with which he was dealing, is more or less connected with hookworm infection are the following:

Ground itch occurs in the warm rainy season, especially in June, July, August, and September, and does not occur in cold weather, even when it rains; thus the seasonable distribution in general agrees with the infection period of uncinariasis. Grass-covered soil and smooth beaten roads do not cause it, neither does working in loose, dry soil; and these conditions are unfavorable to the development of uncinariasis. The number of cases increases after a heavy rain and rapidly decreases during a hot spell, a fact which agrees with the biology of hookworms. "The soil itself is sandy, with clay here and there; a belt of pure sand, 40 to 60 feet thick, lies at a depth of 6 to 18 feet from the surface;" and uncinariasis is preeminently a sand disease.

Still the question is not quite so simple as would at first appear, and in connection with the subject the following points come up for consideration:

1. According to Bentley, ground itch is confined entirely to the lower extremities, and other authors state that it rarely extends above the ankles. According to the physicians in Georgia and Florida, it is found on other parts of the body also. I saw one case, said to be typical, where the disease was confined to one arm. Under these conditions is the panighao, discussed by Bentley, identical with the so-called "ground itch" which is so common in the Southern portion of the United States, or is only a part of the American "ground itch" produced by hookworm larvæ?

2. If ground itch is the initial stage of cutaneous infection with uncinariasis (as Looss's and Bentley's views would seem to indicate), why should it be confined entirely to the lower extremities? If infection by uncinariasis frequently takes place through the skin, would not the hands and arms also, especially of children, and more particularly the soles of the feet and the palms of the hands, the spaces between the toes and fingers, and under the toe nails and finger nails, be the most common initial points of ground itch in case this latter is an initial symptom of uncinariasis?

3. On the same premises would we not commonly find lesions corresponding to ground itch on the abdomen of cattle, sheep, goats, dogs, cats, foxes, seals, and other animals suffering from uncinariasis? I will not deny that such lesions occur, but I have seen many cases of hookworm disease in certain of these animals, and I have no recollection of having observed anything which corresponded to ground itch. If it were as prominent, in the animals named, as the typical "ground itch" of man I saw in Georgia, I doubt whether I should have overlooked it. Possibly I did not have recent infections before me.

4. According to the testimony of Georgia and Florida physicians, "ground itch" is exceedingly common; it occurs at some period in the life of practically every person, unless he lives exclusively in the city; it occurs in the healthy as well as in the sickly, and in persons who neither at the time of infection nor later show the slightest evidence of anemia. These statements, which I have repeatedly heard from Southern physicians, cannot be said to indicate that Bentley's views are applicable to all cases of "ground itch" as we find this disease in this country.

5. "Ground itch" is said to be common in clay districts as well as in sand districts. Under these circumstances, why is uncinariasis so preeminently a disease of the sand areas?

6. Bentley states that "ground itch" is probably always associated with the presence of the larvæ of Agchylostoma duodenale in the soil of the affected areas. Doubts may, however, arise as to wheher a sufficiently wide geographic range has been exexamined in connection with this point.

In view of the above considerations, it will be well to remain open to conviction, awaiting a more thorough demonstration of the broad application of Bentley's interesting and valuable views. But until better proof is advanced than has thus far been

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a Looss has, however, proved that certain cutaneous symptoms follow the entrance of hookworm larvæ into the skin brought to my attention, I find it impossible to unreservedly adopt the opinion that American ground itch is necessarily connected with uncinariasis.

While not opposing the theory of infection through the skin, but admitting, on the contrary that Looss has proved his point, I may state that the conditions which I saw in the southern portions of the United States do not indicate that any indirect method of intestinal infection is necessary in order to explain the severe cases of uncinariasis observed. The average boy or girl suffering from this disease is not conspicuous because of personal cleanliness. Bath tubs are not found in their homes, and from physical examinations I made I can testify that not only their hands and finger nails, but their entire bodies also, are far from a condition unfavorable to parasitism. Sucking the fingers, picking the teeth, biting the finger nails, or even eating a piece of bread with soiled hands, will usually suffice to convey some dirt between the lips. The sand on which children play must be heavily infested with hookworm larvæ, and it certainly cannot be an exceptional occurrence that the children unconsciously carry microscopic worms in their mouth. Further, the chances for infection of surface wells, from which the drinking water is taken, are very great in any sandy soil. If, however, cutaneous infection were the rule, I should expect to find all barefooted children in the infested area suffering not only from ground itch the entire summer, but also from severe infections of hookworm disease.

Hair.—The hair on the head appears to be about normal, but in cases contracted before puberty, the beard and the hair on the body (pubis, armpits, arms legs) are usually undeveloped. I have seen patients 20 years of age upon whose body hairs were almost absolutely lacking.

Breasts.—The breasts of females, who have contracted hookworm disease before puberty, remain more or less undeveloped. In a girl of 20 years of age, for instance, the breasts may not be developed beyond those of a girl of 8 or 9 years old.

Nails.—The color of the tissue directly under the nails varies with the anemia.

Head.

Face.—The face has an anxious, stupid expression, and in severe cases is more or less "bloated" (edematous).

In fact, a prominent symptom of uncinariasis in practically all animals in which it occurs is the development, in severe cases, of a more or less extreme edema. To use the rural vernacular, "the face bloats," and "the feet and ankles swell." The symptom in question is more or less irregular in man as it is in other animals, notably in sheep, appearing and disappearing at intervals. Upon several occasions I was informed that this symptom interfered seriously with the school attendance, for if the children sat still a long time in school "they began to swell." Quite generally, as was to be expected, testimony was to the effect that the edema was less frequent in the winter than in the summer.

Eyelids; conjunctivæ.—An examination of the eyelids exhibits the visability of the blood vessels in light cases, but an absolute marble whiteness in very severe cases, with all possible intermediate stages corresponding to the general degree of anemia.

Eyes.—While looking at the eyelids for anemia, the observer frequently notices that the pupils are dilated or that they dilate readily, and that the eyes are dull, dry, and usually of a chalky white. If the patient is directed to stare intently into the observer's eyes, there will be noticed a symptom which it is difficult to describe, but which I have found more constant than almost any other noticed, namely: After a moment, the length of time *apparently* varying slightly according to the degree of the disease, the pupils dilate and the patient's eyes assume a dull, blank, almost stupid, fish-like or cadaveric stare, very similar to that noticed in cases of extreme alcoholic intoxication. I am not familiar enough with the stare of anemic patients in general to state how common this peculiar look is among them, nor have I found any of my medical friends who could give me much information on this subject; but I can state that among the several scores of anemic people whom I examined on this trip, in the severe cases with two exceptions, I found the eggs of Uncinaria americana in every one (whose feces were examined) in whom I observed that indescribable stare; the two exceptions in question were city boys, both of them sons of a confirmed inebriate; further I failed to find the eggs present in certain extremely anemic patients in whom the stare was not noticed. It certainly was absolutely absent from a number of typical cases of malaria. Toward the end of the trip I found myself unconsciously relying more upon the presence or absence of the blank stare than upon any other single symptom, except of course the presence of the eggs in the stools.

I will not go to the extent of stating that this stare is diagnostic for uncinariasis (and I will even warn that in dark eyes it is less evident than in eyes of light color), for I do not feel that I have had experience enough with the peculiarities of eyes in various diseases to speak authoritatively upon the subject. I simply mention this peculiarity in connection with the discussion of the eye as a symptom which, as my investigations progressed, made more and more of an impreseion upon me. Upon calling the attention of several local physicians to this peculiar stare, they informed me that it was a totally new symptom to them, but that after examining several cases they found it a very prominent symptom. As a general rule the eyes in advanced stages are dry. In this connection it may be noticed that several authors have mentioned the glassy appearance of the eyes of dirt-eaters.

Since my return several of my clinical friends with whom I have discussed this symptom, have expressed some skepticism in regard to the matter. Although thoroughly convinced of its existence, for I saw it too frequently to be deceived, I have written to several Southern clinicians[1] requesting them to give me the benefit of their independent observations on this point. Up to the time of reading "galley proof" of this report the following replies have been received:

[Extract from a letter from Dr. Hilsman, January 2, 1903.]

"Replying to your letter, 24th ultimo, I have to say that I have examined the patients that we saw in the country, and on making them gaze intently at me, as you directed, I observed the vacant stare that you described, but did not observe the dilation of the pupils. The stare is very much like that of an epileptic as he begins to recover from a fit.

"These cases have improved under treatment suggested by you. The little girl passed a large number of the worms."

[Extract from a letter from Dr. M. A. Clark, January 30, 1903.]

"I have delayed, hoping to find the eye symptom you mention, but I have not yet found it. My cases are improving slowly."

Dr. James Edward Stubbert, of New York, who spent some years in Central America and has seen many cases of hookworm disease, has stated to me that he has frequently observed the peculiar stare in the eyes of dirt-eaters.

In this connection it is also not uninteresting to note that some "worm doctors" claim to lay special stress upon the eye in making their diagnosis; also that dilation of the pupil, due to irritation by intestinal worms as well as to anemic conditions, is recognized by certain prominent writers on the eye; further, that dilation of the pupil is also a symptom upon which many children's nurses depend in suspecting the presence of worms.

Sandwith (1894, p. 12) states that the eyes of his patients showed a pearly white conjunctiva, singularly in contrast with the yellow color of the face. Dr. Scott examined several men for him with the ophthalmoscope, and found in half of them a normal fundus, and in the other half a very pallid fundus. The refraction tests showed astigmatism in many cases.

Nostrils—The visible mucous membrane of the nostrils becomes pale in proportion to the anemia.

Lips and gums.—The lips also become pale in proportion to the anemia, the inner surface of the lips and the outer surface of the gums frequently presenting almost a chalky white appearance.

Teeth.—Irregularity of the teeth was so common among patients affected with uncinariasis that the question arose in my mind whether this was not to some extent an expression of the general underdevelopment of the body due to this disease. The point at issue calls for the opinion of a dentist rather than that of a zoologist. The decayed teeth of dirt-eaters have been recorded in early writings on this habit.

Tongue.—In some cases the tongue was coated. A number of observers have already called attention to this symptom, which was by no means general in the cases I observed.

[*To be concluded in October number.*]

Problems in the Study of the Etiology and Pathology of Pulmonary Tuberculosis Upon which is Based the Early Diagnosis of the Disease.

By H. B. Weaver, M. D., Asheville, N. C., Ex-Secretary State Board of Medical Examiners, President elect North Carolina Medical Society.

In presenting this paper to this society, I wish in the first place to review critically some of the casual elements and, necessarily, some of the pathological conditions which go to make up the disease in question.

New interest has been created in this subject, by Koch's paper at the London Congress, to such a degree that that body of men, by resolution, agreed to discuss the predisposition to tuberculosis at the next international meeting. This is evidence sufficient to show what radical transformation of thought is taking place to-day in reference to this disease. The almost universal antagonism which greeted Koch's paper in a most astonishing fashion, established the fact that deep-rooted misconceptions are still in force despite of twenty years of labor, and that bacterial orthodoxy, under the leadership of Koch and Baumgarten, has not yet arrived at a lucid presentation of the subject, which dates back to the discovery of the bacillus. Hygiene and bacteriology, in their intimate reciprocal relations, are proper subjects for consideration in these problems of etiology, and the different view points are of such a nature that we cannot afford to ignore them in our warfare against the greatest pestilence.

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[1] In several cases which I have recently examined in consultation with Dr. Harrison, of Talladega, Ala., and with Drs. Julian and Monroe, in Thomasville, N. C., this "stare" was very evident.

To endeavor to construct, therefore, the etiology of tuberculosis out of the biology of the bacillus and animal experiment is a hopeless undertaking, because false in its premises. "Whoever thinks of nothing but baccillus in this warfare" says Huppe "has already missed the connection between the latter and the social problems of hygiene."

In a former paper (1) on this subject the writer maintained this idea in the following language: "Whether, however, the bacillus tuberculosis of Koch is the fundamental primary cause of this morbid complexus is not so generally acknowledged. For many eminent men following the lead of the incomparable master of pathology, Vichow, point out the fact that the different tuberculor processes are virtually one and the same in different organs and that the tissue changes in the same organ—the lung for instance—are caused by the same parasite, Koch's bacillus, yet they insist that there is in the constitution of the individual anterior to the bacilliary infection *something* which largely determines the course and character of the infection in its results." Continuing in the language of Solis Cohen: "That condition which makes the human tissue a receptive soil—a favorable medium for the tubercle bacillous—that condition which of old was called diathesis, or susceptibility is *itself* a disease, a departure from the normal, and I believe it to be the most important element in the morbid complexus, termed tuberculosis." It is the element requiring the greatest care in prophylaxis, the most intelligent, faithful treatment.

Huppe is very bold in the following paragraph. "It is not without interest to note the manner in which the orthodox bacteriologists seek to evade certain of these facts. Thus Koch will see nothing which has happened (in the last twenty years); he does not or will not know anything beyond the bacillus." "The bacillus is everything! But Koch had much clearer views in 1882 and 1884 than he has to-day; for originally he recognized a predisposition, while now that is a thing of the past, since Cornet's labors. Baumgarten has confessed that the resistance of the organism is of significance along with the virulence and number of the germs. And as for Flogge, the predisposition which had once vanished is now slowly returning." In his recent work he attempted to defend the bacteriologists from the reproach that they do not recognize a predisposition, by saying that "they have always recognized the predisposition as the second factor."

But Orth has told us in particular that in the same lung along with tubercles, caceation and calcification, we may find superficial, exedutive, inflammatory processes; and this multiformity of the histological picture of pulmonary tuberculosis in man alone—which is hardly less than the multiformity seen in syphillis—shows most strikingly that the local predisposition must play the important, decisive role in infection with the tubercle bacillus.

It is a source of some personal gratification to me that such eminent pathologists as Orth and Huppe should after five years *re*present the same view which I had the temerity to advocate in 1897, at the Philadelphia meeting of the American Medical Association, in the following conclusions:

1. That malnutrition is the starting point of all tubercular processes.

2. That while the bacillus of Koch is the most important of the several microbes that influence the progress of the lesion in the various forms of the disease, yet of itself does not originate the disease in any form; and

3. That both factors, the dyscracia and the bacillus, must exist in combination before there can be tuberculosis."

Such late transformations of thought in the representation of the different phases of this subject must go far to show that no one can hereafter dispense with the scientific consideration of the problems of etiology which must be established in the interest of the development of a more intelligent phtho-theraphy.

In regard to the great controversy which was evoked by Koch's announcement of his belief in the identity of bovine and human tuberculosis, we wish to observe, that if recent experiments appear to demonstate that bovine tuberculosis is transmitted to man with difficulty or not at all—if Koch is right—and vice versa, the human form infects cattle with the same reluctance, the explanation would seem to lie chiefly in the substratum of tissue which becomes infected. This would go far to prove our contention that every organism has acquired more or less resistance, upon which de-

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1 Read at the Forty-eighth Annual meeting of the American Medical Association, held at Philadelphia, June 1-4, 1897.

pends the virulency of the process which the pathogenic organism has awakened. This substratum then determines the *type* of the disease, and not the dose of the *virus*, as Koch once contended. Variability of the resistance, then, to the infection, is the *key* to proper scientific conception of the disease, which may be modified by many factors, such as inheritance, social relations, food and education. We repeat, then, in the language of Huppe, that "the substratum—the soil—is by far the most important factor," and Koch, who has failed to keep in touch with the work for the last twenty years, still looks upon the bacillus as the disease itself.

The possibility of transmission by inheritance is so remote that it is not taken into the account, in the causation of the disease. And that inheritance consists *only* in an inherited susceptibility to the disease, is beyond the pale of controversy.

So, after all, the great source of danger of infection of tuberculosis is from the sputum of a cousumptive patient, and the mode is by far, in large majority of cases, the inspiration of the dried sputum in the air passages of the lungs which produces the pulmonary form of the disease, in regard to which we wish to make a few practical deductions from the pathology of the disease.

When we consider the prevalency of pulmonary tuberculosis and the successfulness of treatment of the early stages, and the almost utter hopelessness of the late stages, we see at once that *early diagnosis* is the most important subject in the domain of medicine.

The ability to make a thorough and unequivical diagnosis in incipient pulmonary tuberculosis necessarily depends upon a complete knowledge of the pathology of the disease. We cannot expect one to understand the changes which take place in the pulmonary tissue unless he understands what these lesions are and what produces them. And in view of this fact it would be well for us (remembering some literature on the subject which is extant), to freshen our memories on the pathology of the disease. Catarrhal affections of the bronchial membranes, which are always accompanied with superficial denudation of the epithelium, serve as portals for the entrance and implantation of the bacillus. From this focus, which is an ulcer, nearly always found at the branch of posterior apical bronchus, they advance through the lymph spaces and lymph channels into and through the blood stream, and rarely, if ever, along the mucus membranes from the mouth to the air cells of the lungs. One peculiarity of the bacillus is to incorporate itself with a white corpuscle which has emigrated through the thinned walls of the blood vessels, and by its toxic stimulation converts it into a large lymphoid cell and to a multiplication of the connective tissue cells of the part. This lymphoid cell will grow to the proportions of a multinuclear giant cell containing a number of bacilli. They induce vascular changes and increased deposits of leucocytes, and a granular mass is formed by the coagulation of the nucli of the lymphoid and giant cells. With all of this agglutinated mass of decayed cell elements the process of caceation is established. The presence of this mass of necrosed tissue acts as an irritant upon the capilaries of the vicinity and a wall of new-formed granulation tissue is thrown up around the fucus.

If the barrier of new formed tissue is sufficiently strong to withstand the further invasion of the bacilli, there will occur encapsulation of the tubercle and arrestment of the disease; otherwise there will be extensive caseous infiltration. An increased exudation of blood serum will bring about the emulsification of the cheesy focus and beginning of an abcess cavity.

Not until necrosis takes place can we find bacilli in the sputum, although tuberculosis be present; so if it be possible to diagnose the disease before this takes place much valuable time to the patient will be saved, and if proper treatment is instituted the danger of reaching the open stage of the disease avoided.

This brings us face to face with the problem of the sharp distinction that should be made between tuberculosis and phthisis. We are but following in the footsteps of the great master, Virchow, who in his last public utterance insisted on the distinction between these two conditions.

What then is tuberculosis, and what is phthisis? Tuberculosis is a local disease primarily, with constitutional manifestations, and in thinking of tuberculosis there are two distict ideas in the mind; the idea of a morbid process of a general infectious character; and an idea of the existence of certain local nodules with characteristic anatomical lesions.

"Local tuberculosis, regardless of its situation in the human organism, possesses the same characteristics, degenerated metamorphosis and prolification of fixed tissue cells resulting in the sequestration of the infective irritant."—Hupe.

Pure tuberculosis is not the result of an inflammatory process, for it is not manifested by the classical signs of inflammation—rubor, tugor, calor, dolor; neither is it a neoplasm, for it passes neither blood vessels nor nerves, and does not tend to repair but to death. It is simply a caseous mass of coagulated necrosis, in the center of which are enclosed bacilli. It consists essentially of closed foci without sputum or expectoration. And if the conservative forces of nature are sufficiently strong to preserve the fibrous capsule thrown up and around the tubercle, it will ever remain encapsulated, and will calcify into a harmless mass; otherwise it will soften and liquify, breaking through the thin membrane into a bronchus. There the always accompanying bronchitis produces an inflammatory exudation pyogenic in nature which constitutes the sputa in which the bacilli are set free, and coming in contact with the different pyogenic cocci, makes the mixed infections.

Phthisis is tuberculosis plus mixed infection. "Bacteriologically it is a symbiosis of two or more pathogenic organisms acting in unison." The steptococcus and sthylococcus are the most constant attendants, with sometimes the diplococcus and other cocci intermixed.

Phthisis then, is tuberculosis with a spticæmia or pyemia added to the process. In other words it is a piogenial superinfection whose predominent manifestations are found in other acute supurations like erysipelas and puerpural fever.

Ortner has shown us more specifically that staphylococcus pyogenes possesses the liquifying action upon the connective tissue and must be held responsible for the breaking down of the tuberculous tissues. The diplococcus is the cause of the brochopneumonia of phthisis, while the streptococcus is the sole cause of hectic fever and night sweats.

Hæmoptysis is, regardless of the time of occurrence, a regular accompaniment of phthisis.

Although pure pulmonary tuberculosis consists essentially of closed foci, and is not manifested by these symptoms of expectoration, bacilli, fever, or hæmoptysis, yet there are signs and symptoms by which this stage of the disease may be early and easily diagnosed.

The three most important means by which we may diagnose the incipient stage of tuberculosis are, physical examination of the chest; the thermometer and the tuberculin test. From these clinical signs, one ought to be able to gain sufficient evidence to make a diagnosis of insipient tuberculosis, long before the appearance of bacillus bearing sputum, and hence the microscope is, in this stage of the disease, of no avail in reaching a conclusion, but merely confirmatory of his findings, and that it is only after the disease has been present sufficiently long, it may be a few weeks or a few months, to cause the breaking down of tubercles with outward discharge into a bronchiole.

It would not be called an early diagnosis of an abscess when it had broken down and the products of the discharge had been found, by microscopical examination, to contain different pyogenic cocci; yet many are content to call it an early diagnosis in pulmonary tuberculosis when the tubercles are broken down and the sputum ladened with bacilli. Why should a patient come to a physician at all for a physical examination, if incipient tuberculosis can be detected only by finding bacilli in the sputatum? And in the language of Brandenburg, the time is passed when it is customary to seek for tubercle bacilli as evidence of beginning phthisis.

The German physicians have taken an advanced position on the subject of early diagnosis, and through the constant practice of examining early cases, have been able to make physical diagnoses for the most part independent of the microscope, and before the advent of bacilli in the sputum, and are hence giving their patients the benefit of this most favorable time for treatment. Out of 6,000 patients treated in the different sanitoria last year, 2,000, or one-third were diagnosed purely tuberculous before the opened stage of the disease was reached, by the physical signs pure and simple, without the aid of the microscope.

But how is it on this side of the water? Let me quote from Trusau, than whom there is no better authority in this country. He says: "A man who has acted as examiner for the Aderondack Cottage Sanitarium for years in a large city, says, that not a really incipient case of tuberculosis has been referred to him for examination, and that the 'histories of over 70 per cent. of the applicants for admission to the Sanitarium show disease from one to three years standing. This is indeed a sad state of affairs, and one that should be remedied, and calls loudly for more careful study and adequate teaching on the subject. The public must be informed. Tuberculosis is the people's disease, and can be stamped out only by their intelligent aid, and so there should be a united effort upon the part of both the medical profession and the laity in carrying an adequate knowledge to all the people of the land. They should be taught when to expect the incipient stage and that this is the most favorable time for its treatment.

Now, then, in view of what has been said, can we interpret the pathological lesions which constitute incipient pulmonary tuberculosis by the physical signs and clinical symptoms present? Oninspection of the chest we find impairment or irregularity of respiration on the affected side, a lagging of the muscles on that side. In the supra or infraclavicular fossæ there is flattening or depression. If tubercles are forming with slight infiltration, there will be detected a slight increase in vocal fermitus on palpitation on the affected side.

Percussion.—This is the least satisfactory of the physical signs. On close observation, however, upon comparison of both sides, there will be detected a defective resonance upon or above the clavicle on the affected side. There is a want of elasticity: a definite or wooden dullness which can be elicited on repeated examinations. But unless the crop of tubercles were very dense, there would be no very marked dullness of the percussion note in the beginning of tuberculosis.

Auscultation.—Possibly it is needless to tell this society that this is the most important physical sign, and requires the greatest painstaking care with the most consummate skill of all the procedures in pulmonary diagnosis.

The important changes in normal respiration consist in the alterations of pitch and rythm.

What is normal respiration?

An audible inspiration, vesicular in quality, a slight pause, and a short, inaudible expiration.

The rythm of respiration is continuous in movement (lagato) as in music, while that of the heart is interrupted movement (Staccato).

A change from the continuous to the *interrupted rythm* makes the *earliest* pathological conditions in the lungs. Inspiration loses its breezy character, becoming brochovesicular, partly suppressed and shorter in duration, with an interrupted, jerky, cogwheel action, while expiration, which is prolonged, is higher in pitch.

My experience has taught me that cogwheel inspiration is one of the most valuable early signs in pulmonary tuberculosis, and especially if it can be located immediately below the clavicle on the left side. Another sign which I have adopted, and which is almost pathognomonic, is for the patient to place his hand on opposite shoulder; the ear is placed over the posterior portion of the lung uncovered by the scapula; just above and external to where the bronchial tubes are given off, there will be heard prolonged tubular breathing and fine crepitation on coughing. This, says Loomis, is the very first physical signs of tuberculosis, an evidence which will make a diagnosis possible weeks before the signs are evident in front and beneath the clavicle. These evident changes in the respiratory urmer, it matters not whether it be rough, harsh, weakened, distant, tubular, puerile, sharp, rude, exaggerated, or interrupted, suffice to show that there is a modification in the vesicular respiration, which is constant in a circumscribed area, and if added to this one have an "apical catarrh," with fine capitation, or a few localized bronchi or bilateral rales, then it is pathogonomic.

As we have intimated, the thermometer is. after all, the best instrument in determining an incipient case of tuberculosis. If the temperature be taken every two hours in the afternoon, and there is a daily rise of ½ to 1 degree of fever, that should go a long way in confirming the diagnosis.

The Roentgen rays have proven, by concensus of experiments, to be of no practical utility in detecting the disease in its earliest stage, for when the fluroscope throws a shadow of haziness, the infiltration which must be present can be easily determined by the physical signs and clinical symptoms, which are plainly evident.

What shall we say then, in regard to the tuberculin test? I am of the opinion, both from my own experience and observation of others, that it is a most reliable and safe diagnostic agent in incipient tuberculosis, but must be used with due caution and definite ideas. The main idea is that this test should be restricted to those cases wherein the usual methods have failed to give a clear clinical diagnosis.

H. P. Loomis, in his very latest work, 1902, takes a very hopeful view in regard to prophylaxis resulting from the advance in methods of diagnosis, and again recognizes the value of the tuberculin test, and reproduces the interesting table of Anders, which shows an aggregate of 1460 applications with 72 per cent. of positive results in cases suspected to be tuberculous.

There is still fear on the part of some physicians that the tuberculin test is harmful. This fear is based on the unfortunate and indiscriminate use of the agent therapeutically, when first introduced. Anders collected 3600 cases and states: It is worthy of note that in not a single series of cases among the many included in the tables which I have prepared is mention made of ill effects. At all events, I have not met a single authentic report of a case in which the disease has been disseminated to distant parts of the economy with ensuing acute tuberculosis."

I wish here to add to this testimony the names of such eminent men as Trudendeau, Dunn, von Ruck, Osler, Otis, Heron, Bernheim and Petroschky, and show from their experience that the test is harmless when carefully given. As to the details of the process, I will not reiterate them here.

If, as has been shown, by this test how delicate the first changes in the lungs are, and we are able by it or other methods to detect the incipient stage before sputum is present! May we not indulge the hope with Turban, who says that 97 per cent. should be cured before ever reaching the open stage.

In regard to the general local symptoms, we note, loss of weight, chloro-anemia, especially in the female; loss of appetite which may become a total repugnance to food, is present in the large majority of cases. The patient easily tires on the least bit of exertion.

There is increased pulse rate, amounting sometimes to tachicardia; the nervous system is easily disturbed; the patient is irritable and restless; sleep is unsound and the patient wakes in the morning as tired as when he went to bed.

From the list of these signs and symptoms, one ought to be able to gain sufficient evidence to make the diagnosis of incipient tuberculosis long before the appearance of bacillus bearing sputum, and as the ear becomes better trained, he will have less need for the microscope to confirm his diagnosis. But let us not be misunderstood in regard to the use of the microscope, for it gives us a comparatively early diagnosis in the phthisical stage, but it must not be relied upon to show anything in the incipient stage of tubercle formation, for as we have said before, we do not find baccilli in the sputum, until the tubercle bacilli have found lodgment in the tissues, and tubercles have formed, softened, broken down, and have discharged into a bronchus.

While tuberculosis, as well as a goodly number of cases of phthisis are eminently curable, early diagnosis is of vital importance.

Successful treatment must necessarily depend upon the measures adopted before the lungs are extensively involved, and it goes without saying that if the early stage were diagnosed while yet tuberculosis, there would be practically no mortality.

Treatment.

From the time of Hypocrates down to the present there have been different eras of treatment of tuberculosis according to various and varying conceptions of the cause and nature of the disease. There was once the cod liver oil era, then came the alcohol period, then the creosote age, and now we have on trial the specific treatment of tuberculosis.

It would far transcend the scope of this paper to speak of them all in detail. Cod liver oil stands simply and solely as a food in this category, while alcohol is proven both by scientific record and clinical experience, to be in no sense of the word a food, but merely a narcotic stimulant, and therefore wholly unfit for the treatment of as chronic a disease as tuberculosis. Creosote has its place in the therapeutics of this disease as an intestinal antiseptic and in small or moderate doses aids perhaps digestion, by preventing fermentation. In my experience, not to say experiments with the remedy in hundreds of cases I have never been able to give the excessively large doses of 60 to 90 drops without sooner or later so disturbing the digestive functions that I would have to materially decrease the dose, or suspend the medicine altogether. But of these dietetic hygienic and drug treatments of tuberculosis other gentlemen will speak. It only remains in conclusion to give a few thoughts of the specific treatment.

Specific medication rests essentially upon the broad principle of immunity. Therefore in the light of the given theory immunity becomes the underlying principle of all those diseases which are caused by a microorganism. Therefore we postulate some truths which are axiomatic:

(1) That all given diseases are caused by a microorganism parasitic in nature.

(2) That there is inherent in every living organism a power of protection against parasitic life.

(3) That this power is potent in direct ratio with physiological development and normal health.

(4) That there must be a proper soil for the disease germ, is prerequisite for the establishment of the disease.

(5) That tuberculosis is essentially a chronic local disease, and is slow in exhausting the soil in which colonization of the tubercle bacilli have taken place or the disease has been established.

(6) That when the disease has been established, cure can only take place through the phogocytic power of the leucocytes or chemical change in the blood serum whereby the bacilli are destroyed or their toxins are distroyed or neutralized, whereby we get necrosis and ejectment of the mature bacilli or encaputation of the trouble.

Upon these fundamental principles is established the idea that immunity constitutes the basis of specific treatmeut of tuberculosis. There is natural immunity and there is artificial immunity. Natural immunity is that condition of the system in which there is something ever present which inhibits the colonization of disease germs.

Artificial immunity is that condition of the system by which the specific pabulum has been taken out, by long resistence to disease germs, or the tissues and blood have been rendered intolerant by the gradual introduction of a specific toxin which is antidotal to the bacterial poison produced by the tubercle bacillus.

Hence some one of the culture products of the tubercle bacillus is the logical remedy in the cure of tuberculosis,

The test of a remedy is, that it should do what it is recommended to do. Kitasato, Spangler, Koch, von Ruck and others have by the use of culture products, rendered animals immune so that when doses of Virulent bacilli are injected into them, the disease did not spread beyond the local ulcer at the site of injection. Vaughn & Novy prove by the phenomonœ of agglutination that the body juices rob the bactria of their virulence, and that it is an indication that the blood of an immunized animal has some detrimental effect on the growth. Not only do these experiments establish products, but clinicial evidence amply corroborates these facts, for when treatment is begun in an early case of tuberculosis, the patient seems to become immunized and the disease arrested.

With these positive scentified proofs of the curative power of the tuberculin products, which are corroborated by the experience of hundreds of eminent clinitians is it not reasonable to conclude that in suitable cases where the culture products are not used the patients are deprived of one of the agencies which would contribute materially to their cure. That the unjust criticisms born of ignorance and prejudice against the tuberculin products are giving away to a more reasonable view in regard to their efficacy is evinced by the change in tone of all the current literature on the subject. For instance, we quote two of the leading journals of the world; Journal American Medical Association, and British Medical Journal. The former in a recent editorial says: "In the hands of those who have used this preparation (tuberculin) most faithfully and continuously, and therefore, it must be assumed, most intelligently, the results have been most gratifying, and with a better understanding in the way in which it is to be used and of the cases which are suitable for its employment, tuberculin now seems about to enter on a period of usefulness as a curative agent." The tone of these editorials with many other writers leaves no doubt as to the status at present of the culture products as a remedy in tuberculosis. But it should be distinctly understood that these culture products are remedies for *tuberculosis*, pure and simple, and *not* for the consumptive stage or phthisis; that "they are not expected to have any influence over dead tissue or can regenerate cells that have been destroyed."

Pottenger, who has had large experience in the treatment of tuberculosis with the culture products, gives a collective investigation. To letters sent out he recieved 143 replies from the most eminent clinitians of the world. Of this large number only 18 were hostile to the remedies; while the remaining 34 did not use them simply because they had not been convinced of their value, although 12 of these acknowledged that the remedies had contributed to cures in their hands. Those who recommend them base their opinions on total experience of 5,742 cases treated; those who do not recommend them have had experience in 813 cases.

In analyzing this report, it is surprising that those who oppose, or 21 per cent, have had little or no experience with the remedies, and those who endorse, or 60 per cent, had much experience with the remedies. Of those who did not recommend them, only four had had any extensive experience—only one reaching over one year. In contrasting the short period of treatment employed by those who do not favor their use with months and years of those who do, it is not hard to see that much of the failure and disappointment upon the part of those who have used the culture products have been due "not only to an insufficient understanding and faulty application of the remedies, but also an inadequate knowledge of the disease they were attempting to treat."

When Koch gave tuberculin to the world, few men knew anything of tuberculosis. Even pathologists knew little of the minute pathology of the disease. No wonder that the general practitioner began the employment of tuberculin without any knowledge or fitness for the work, and we are not surprised that the results have been disappointing to some.

In the language of Pottenger, if there ever was a remedy demanding therapeutic exactness it is tuberculin. All the hostile critics base their judgment on the misuse of tuberculin when first introduced. It would now be considered malpractice for one to give the excessive dose of 20 milligrams of tuberculin, which was the custom in 1891.

I can not go into a detail of the clinical instructions and application of the remedies in this paper, but I want to emphasize one fact, it is impossible to judge the effects of the culture products upon the course of tuberculosis without fully understanding, as we haue said, the clinical, natural course of the disease. And the reason why nature does not make a spontaneous cure in every case is that the organism has failed at some juncture of the process to manufacture a sufficient amount of antitoxin within the individual organism, which is antidotal to the bacterial poison. Hence we see the reasonableness of the theory of artificial immunity which can be produced by the introduction of tuberculin products into the system, which will so stimulate some organ that a sufficient amount of antitoxin will be produced which shall prevent the further growth of the tubercle bacilli and their destruction upon the tissues of the body. That these remedies will do what we claim, let me quote a few cases and I am done:

Goetsch treated 356 cases within first stage, curing 278, or 78 per cent.

Turban had 20 first stage cases; cured 20, or 100 per cent.

Klebs had 14 first stage cases; cured 14, or 100 per cent.

Petrosky, 18 first stage cases; cured 18, or 100 per cent.

Tradea treated 24 first stage cases; cured 20, or 83 per cent.

Von Ruck, prior to 1901, treated 105 first stage cases, with 93 per cent ot cases cured. Since then he has treated 106 in class A, with 91 per cent of recoveries.

The writer has not been quite as successful in his limited experience of 21 cases of first stage and moderately advânced second stage cases, having had apparently arrested disease in 14, and 7 little improved, 4 of whom died.

Von Ruck has treated 1,339 cases with the culture products with 42 per cent of recoveries, and 816 *without* these remedies with 12 per cent recoveries. Comment unnecessary.

I only wish to add to this by saying that as adjuvants to treatment, is: that the best antipyretics for the fever of these cases is absolute rest in bed, when temperature is over 100 degrees, reclining in open air always when possible. Good, sufficient food of albuminoids and carbodydrates are prerequisites. Detailed instructions as to regulation of exercise and rest and hydrotherapy must be specified.

The Relationship of Man and Micro-Organisms in Health and Disease.

By Paul Paquin, M. D., Asheville, N. C.

A healthy reaction has been for some time leavening the world's theories on bacteria, their general and special purposes and their effects. The result is already promising. Not only is the sifting of theories, doctrines, experiments and observations clearing the way of visionary rubbish in the profession, but, incidentally, it is opening the eyes of even the laity on the sciolistic practices of pretenders. It is pointing out with just contempt and exposing to ridicule those medical men who falsely profess by deed or word much knowledge of microscopy and bacteriology and exploit this pretention amidst their patients to gain remunerative confidence. The doctor who has under a glass bell a microscope so glistening that it proves disuse, or who cannot distinguish between a hair and a bacillus of tuberculosis, though he gets sputum from his patients and professes to examine it, is not to command respect much longer. The physician who punctures the tip of a patient's finger, gets blood, goes in next room, comes back in five or ten minutes and has the nerve to explain the amount of hæmoglobin, the number of red, white and diseased cells, or the kinds of germs and the parasites in the specimen, is a fraud who is becoming known. The doctor who, with solemn looks, advises his office patients that they have just escaped fearful danger by his prompt removal out of their company and out of town of a case of anthrax in a poor patient, impressing every one at the time of the wonderful good luck they had that he was competent to cut disaster short by one or two unexpected, sudden microscopic discoveries, may scare people into belief in his greatness, but to those who know he shows little regard for his alleged scientific reputation, nor can he expect to hold professional respect by such work. And the doctor who is more of a laboratory technician than an all around practitioner, is equally unsafe at the bedside.

The intemperate and false teachings of some supposedly good men in medicine have depreciated the actual merits of bacteriology as a diagnostic measure and produced false impressions and conclusions as well as fears and practices unwarranted among the people. The unseemly word "bug," referring to bacteria, has become a byword, and many there are who see so much of germ danger everywhere and in everything that they scarce dare breathe or eat. Common sense practical and sanitary rules have yielded, in many instances, to useless, theoretical, unsanitary measures, as, for instance, the use of the so-called disinfecting broom, which is supposed to kill carpet and floor germs as one sweeps! It is germs! germs!! germs!!!

Germs of one cell and germs of more,
Germs like a bell and beads galore,
Germs with hair and germs with tails,
Germs with teeth and with entrails,
Germs like snakes with corkscrew curves,

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* Read before the North Carolina Medical Society at Hot Springs, N. C., June 3, 1903.

Germs with shining glossy furs,
Germs in cheese and germs in meats,
Germs in butter, germs in sweets,
Germs in bowels, germs in loins,
Germs in wombs and germs in groins,
Germs in kisses of ruby lips,
Germs in things society sips,
Germs in all kinds of honey,
Including poor, old matrimony,
Indeed, they talk of germs on money.

As Mr. Dooly in his own language would say to his friend, Hennessey: "Thim gerrums, Hinnissy, ar' damnin crathurs that Sain' Patrick furgot whin he bannished the shnakes frum the wurrld."

There would be some sense in this reflection too. The exaggerations about "the awfulness of germ life" and the failure of the world to die as categorically and as promptly as "germ fiends" predicted, justifies one to see humor in much that is said on the infinitely little and entertain doubts as to the genuineness of at least some of the criminal ravages laid at their doors.

To utilize the talent of Mr. Peter Dunne again for the purpose of illustration, if Dooley had had some experience with physicians and germs he might relieve his feelings to Henne sy in this manner: "I tell ye, Hinnissy, I used to think all docthars hoombugs 'ceptin wance when me bye, Pat, was borrn. Pat wus sich a rid-hedded confalgration 'is mother almos' died and 'twas thought Pat mus' be baptized in uterum, as Father Kelley said to me in Latin."

"Phwat makes ye think better iv the docthars now?" asked Hennessy.

"I'll tell ye, Hinnissy. D'ye know Docthar Peter Gillhooly, him iv the Sain' Margret horspital? He's a foine min, Hinnissy. Las' Satirday the same rid-hedded Pat, me bye, got to complainin' wid a paane in 'is interls. Th' old woman made 'im sum sage tay an' sum cat-nape tay an' sum diabolic tay, an' put a fly stakin plasther on 'is belly wid a pound iv musthard b'twane. Th' paane didn't shtop. Thin I took th' lad over to Docthar Gillhooly, Hinnissy—a foine min is Docthar Gillhooly. Docthar Gillhooly shtraped 'im naked 'ceptin' 'is natral skin an' dug into 'im wid 'is fist an' fingers an' irregationed 'is gutral canal wid a whisky bar'l hose siven feet long, an' phwat d'ye s'pose he found, Hinnissy?"

"I'm a min of dacent wurrds, James Dooly," answered Hennessy, "I mus' decline th' subjective introgation."

"Oh! git out wid y'r dacency. I've sane ye drink frum a decanther, Hinnissy, an' ye married in a family wid past morals. Th' docthar found gerrums, Hinnissy—gerrums iv a goom bile in 'is peridiculus. He showed 'em to me, threw a telescope iv brass pipe, wan 'underd balions shtrong, all iv 'em bilin-mad 'an shtickin' up sumpin as porcupin's. Ah! me poor bye!"

"That's bad," said Hennessy, sadly, "Did th' docthar cure th' gerrums?"

"Yis, Hinnissy, all but tin shtuck up around th' liver bladder. He cut all iv th' dendulum iv th' peridiculus an' all iv th' gerrums in it, but me bye died. 'Twas a grrate operation, Hinnissy. Thim docthars ar' onery whin it cums to curin gerrums."

Thus might the story of the microbes and their exploitation in the practice of medicine be ridiculed and made absurd. And it is well, for it is often from the sting of ludicrous satire that great truths and principles become the object of serious thought.

In a general sense the relationship of microbes and human beings is two fold—physiologic and pathologic—in its results. This is unquestionably true of bacteria and man. I will not enter into a discussion of the animal micro-organisms, such as the plasmodia or their kin, which are, theoretically or with evidence, accredited with the responsibility of causing malaria, small pox and perhaps yellow fever. It is to the bacteria class of microbes that I have special reference.

The relation of bacteria and man with physiologic results may be stated as the life of the infinitely little vegetables within or on man's system, in the soil, in the food supplies, in the air, in the water, and in all surroundings producing direct or indirect benefit to the race. The relationship with pathologic results is the life of such microbes with incidentel, accidental, facultative or obligate damage to man's organization in one sense or another, or in a combination of injuries of various kinds and characters. By far the greatest number of bacteria are beneficial and useful and perhaps all of the beneficial and useful kinds are essential to maintain the sufficiency and equilibrium of material for the existence of all things on earth and to evolve special products of commerce and the industries, such as nitre, ammonia and vinegar, for instance. Indeed, a very important biologist has gone so far as to say that certain bacteria usually found on foods in their natural state are probably useful if not necessary in the process of man's digestion, aiding it by their digestive and fermentive products, and that the same foods sterilized are by far more difficult to digest than when swallowed in their natural condition or semi-natural state.

Be that as it may, there is no doubt that human beings are covered, within and without, with countless myriads of bacteria; that among them are countless billions that have some form or other of digestive or fermentive or transforming properties; that food supplies and beverages of all kinds are all more or less impregnated with such microbes, and that there results no pathologic phenomenon from their *normal* life and development. Their ordinary growth seems to result in nothing abnormal in man. On the contrary everything seems physiologic throughout.

Of chief importance to us is the life of "germs" which are known to produce definite results known to be essential for the existence of man. Some of these bacteria constitute the only natural scavengers and restorators of the universe. They underlie all processes of decomposition of organic matter, thereby affording to the air and the soil with its water the elements necessary for the life of other beings of both the animal and vegetable kingdoms. For, by the decomposition of the dead vegetables and dead animals of all kinds, the air and soil regain what vegetable life daily abstracts from them, and from vegetable life man receives, directly when he eats vegetables, indirectly when he eats meats, all of his organic and some mineral sustenance.

Bacteria, then, are beings which, in the main, while maintaining themselves establish the balance of nutrition in larger beings, producing gases, acids, etc., necessary to plant life and evetually, if not perhaps immediately, at times, to animal life. There are some of them that produce our fertilizers as in the decomposition of manure. Others decompose material on and in the soil and render it more nutritious to vegetable growth whence is derived animal energy, as for instance the nutrification of the soil. And perhaps it is true, after all, that digestion is enhanced by certain microbes. So much for bacteria that are beneficial.

As physicians we are supposed to be more concerned with the kind of bacteria that cause disease, may the affliction be ever so slight. Here the intimate relationship of microbe and man becomes intensely interesting and, necessarily, the conscientious practitioner cannot escape proper study of the subject if he will do his duty to his patient and himself. As a factor in diagnosis the real understanding of patho-biological processes is of paramount importance in all microbic diseases and complications, even though one does not make his own analyses, provided, of course, that such analyses are made with real understanding backed besides by sufficient technical and clinical experience. The too common cursory analysis of many is insufficient and unreliable. In fact a guide in therapeutics in such maladies, a combined clinical and microscope knowledge of existing patho-biological conditions is of the greatest value and should never be neglected.

And yet, one who attaches so much importance to bacteriology that he ignores or forgets bedside experience, physical symptoms and clinical indications, whether in individual cases or in a general sense, commits a grave error and often does injustice to those who must trust in his judgment, for, in many, many cases neither the microbiological tests nor the physical signs alone are sufficient for diagnosis, prognosis and treatment. And, by the way, to-day the man who seeks help from a physician needs both of these forms of assistance judiciously considered and understood, and he has a right to demand them. A bright microscope in a show case to influence people, is not enough to render due service either.

We speak of contagion and infection. Both terms are misleading to the average mind, for both are generally considered equivalent. For sanitary and therapeutic purposes also they are not exactly what they should be. For practical applications the profession should, it seems to me, define all diseases commonly called "catching" or due to some form or other of virus as "transmissible." This word explains the gist of the fact and the danger. In this sense all germ diseases are more or less dangerous directly or indirectly. Then it should classify the transmissible diseases according to knowledge of each as it becomes more and more clearly defined. As this work is done the special relationship of individual germs and man will become better understood.

But I am diverting into side issues now. It is chiefly to the general relationship of disease germs and man that I intended to direct your attention at the outset of this meagre paper. I have permitted myself to throw out side lights—though dim as you have seen—into numerous labyrinths that one who studies patho-biology and the practice of medicine can scarcely dissociate from his main points when he begins to talk on medicine.

What is the general relationship of disease germs and man! It is that of parasite to victim. Whether incidentally, accidentally, or in any other manner, when a bacteria lives at the expense of the tissues and fluids of another living organism and saps its vitality in any way, it may justly be classed as a parasite. The degree of parasitism is another thing and needs an amount of consideration scarcely admissible in my theme.

Admitting, then, this kind of relationship of disease germs and man, what are the problems involved in the practice of medicine, whether in general practice, surgery or in specialties? First, is the prob lem of local lesions due to microbic life? It involves the study of the possibilities of a given germ in a given disease with reference to the destruction of human cells or vital floating material through them where such germs establish themselves and multiply. Second is the problem involving the nature and properties of the products of germ life in those localities? Third, we are confronted with the effects of these products on the nerve centres, the cells in general and the blood. Fourth, we have to deal with the general results of toxic action on all of the human machine, having in mind in giving out such a thought the numerous diverse special organs of the system, for instance the work of the stomach, the work of the kidneys, the work of the adrenals, the work of the thyroids, the work of the lungs, the work of the intestines, the work of the lymphatics, etc., etc. (I mention these as they come to my mind, and, as you see, rather irregularly). So much for the parasitic relation of germs and man.

Now, what is a man's case in the situation? It is one of natural defense to which the physician is expected to contribute by his knowledge of natural law, medicine, surgery and hygiene—(a duty which some construe as a license for revenue only, irrespective of truth, sense or honor, or justice, boldly flourishing for mercenary purposes impossible notions and fallacies before the credulous, ignorant and susceptible, often concealing their guilt under the cloak of "the ethics," sometimes unscrupulous to the low degree of defeating the entrance of worthy competing physicians to local and other medical societies.) The natural defense of man against bacterial parasites resides in his own structure. It consists, on one hand, of natural attributes lodged there congenitally or naturally acquired; on the other of defensive powers provoked by the parasites invading the human cell. When an army of one nation invades the country of another resistance is provoked and usually comes at once. So it is with germs invading the cells of the body.

What are the defensive forces? I will not attempt to delve in the technical problems of biology or chemistry involved in this question; suffice it to say that they exist naturally in the serum of the blood, possibly in the lymph, surely more or less in the cells whose duty to their organization is to hold together in a most remarkable form of patriotism and among whom are those endowed with the special task of acting as sentinels, scavengers, engineers and repairers of tissues as real soldiers of defense and offense in the true physical sense of the word.

The defensive forces provoked by the ingress of disease bacteria into the intimacy of the tissues or vital fluids are classified under the generic term of "antitoxin," which, in a general sense, and for the purpose of this paper, I would have cover the agents, known or unknown, which assist more or less, directly or indirectly, in the arrest and cure of such transmissible maladies as diptheria, pneumonia, erysipelas, tuberculosis, certain forms of septicemia. tetanus, etc., (under the theory of which, by the way, the various forms of true serum and antitoxin treatments have been rightly promulgated and are now justly fostered, though several of them are yet imperfect).

We may say, then, that, physically considered, man and disease germs are constantly engaged in a Darwinian warefare, a "struggle for existence." To-day one's nature resists the germs of blood poison, erysipelas, consumption always about him and having constant ingress. To-day he fights them off with his natural army of cells and their natural and acquired weapons of serum, antitoxins, etc.; to-morrow the germs invading him gain a foothold, establish a colony, later another colony and perhaps a fort in the nature of a tubercle or pustule or infiltration somewhere, and finally the invisible army kills cells right and left, sends poisons throughout "the republic of man" by means of its circulation channels and nerve currents. Then the government centre—"the brain" —becomes intoxicated as it were; it weakens, falters, fails to do its essential duties and the whole admirable, wondrous aggregation of myriads of individual living cells, under it, inseparably joined together for the common purpose of maintaining the basis of a soul, falls to earth and is finally buried beneath it.

One point we should always bear in mind is that very few disease germs, if any, are absolutely obligate parasites every time they reach the system of man. True, we have scientists who maintain that certain kinds of virus, (such as that which produces scarlet fever), are always inoculable. But we must not forget that even such a virus, to produce disease phenomena, must be planted in suitable soil to develop. So, after all, even the most ruthless of contagium requires proper soil as a prerequisite of disease development. In support of this theory I might cite many diseases. We all know, for instance, that a vast majority of human beings have germs of tuberculosis in them. Yet only a seventh or a fifth of the population die from this disease—truly an enormous proportion of the general death rate, but a small proportion of those carrying within them the germs of this disease without noticeable pathologic manifestations.

We should keep in mind, too, the fact that certain germs usually impotant become at times grave factors of diseases already existing, particularly in lesions; or that associations of germs not dangerous individually may be of serious importance when developing lavishly and jointly or successively under peculiar conditions. Thus, there are germs among the various seemingly harmless kinds of the alimentary canal which may, secondarily or as a complication, produce bad results. Germs destroying food in the intestines or before its digestion may, without lesions to the tissues, produce such poisons as to cause the gravest forms of toxemia. All these problems demand very cautious and judicious analysis both clinical and bacteriological whenever possible. The practitioner to-day, to be fair to his patients, to himself, the profession, and be clinically successful, must be ever on the qui vive on the whole question of the relationship of micro-organisms and man. And he who is so far behind the advanced professional procession that he ridicules bacteriology, or those who experiment in animal life and animal medicine to learn the sciences of health and disease, or is such a pretender in knowledge that he exploits a sciolistic show of experience foreign to his training and to the principles of ethics, is a draw-back factor in the road of medico-scientific progress.

The Normal Saline Solution—Its Physiologic Action and Uses.

By Geo. P. Edwards. M. D., Sylva, N. C.

Whenever there has been any considerable loss of blood from any cause, such as during or after surgical operations or in post partum hemorrhage, it is always desirable, and many times imperative, that the lost fluid be replaced by another fluid in order that the normal quantity of circulating fluid may be maintained.

It has been shown, according to Pye Smith, that in hemorrhage the real cause of death is a mechanical one, and consists in the loss of volumn of the circulating medium, which must, within certain limits, be proportional to the capacity of the vascular system.

Hunter states that the immediate source of danger from sudden loss of blood is the fall of blood pressure to a point where the circulation cannot be maintained.

After profuse hemorrhage the dominating and all-important indication is to restore the volume of circulating fluid. For years the transfusion of human blood was the method resorted to in these cases. But this procedure was attended with so much danger and inconvenience that it has been almost altogether displaced by the use of the normal salt solution, which is simple and perfectly safe.

Not only is the technique of blood transfusion much more difficult than that of the normal salt solution, but it was found that the transfused blood elements did not retain their vitality but simply circulated in the blood stream as foreign matter. Thus what was supposed to be a great advantage was in reality a source of danger.

The difficulty of finding a healthy individual free from constitutional taint and willing to donate or even to sell the quantity of blood required for transfusion, is another serious objection to that method.

The simple normal salt solution possesses not only all the advantages and none of the disadvantages or dangers of blood transfusion, but it also has the additional advantage of being obtainable in unlimited quantity and administration at any desired temperature. It is the remedy par excellence for the acute anemia following hemorrhages whether they be traumatic, operative, post operative, post partum or post abortum. Even after pulmonary hemorrhage or the hemorrhage of typhoid fever, if employed with caution, it will be of great value.

The normal salt solution, so-called, because the amount of inorganic salts which it contains is practically the same as that of the normal body fluids, has come to be a therapeutic agent of recognized value. Probably there is no other substance in the whole wide range of therapeutics that will successfully serve in a greater variety of conditions than the normal salt solution.

It is said to be as specific in its field of usefulness as any drug we possess. Being isotonic with the blood serum, it has no irritating effect upon the tissues. It is non-toxic. Does not coagulate albuminous fluids. It does not coagulate the blood. Injected into the blood stream it does not cause the blood elements to undergo any change of form, as would be the case if water only were used. Neither is the normal proportion of leucocytes altered.

J. G. Clark says, in the Journal of American Obstetrics, that there is no fear of untoward symptoms from the injection of one or even two liters of the solution at a time. The amount to be used, however, and also the rapidity of injection should, I think, be gauged by the patient's condition, as any other therapeutic agent.

Bryant states that for transfusion the normal salt solution is far superior to blood,

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*Read before the North Carolina Medical Society, at Hot Springs, N. C., June 3rd, 1903.

and that it has almost entirely superseded the uso of blood for this purpose.

But the field of usefulness of the normal salt solution is not limited to making up the last volume of circulating fluid after hemorrhage. The injection of the normal salt solution, whether intravenous, subcutaneous or rectal, raises arterial pressure and hydrates the tissues causing rapid diurasis and increased elimination. It dilutes the toxins which may be present in the blood, and thus prevents in large measure their irritating and depressing effects on the vital centers. It stimulates the cardiac ganglia, increasing the force and regularity of the pulse. If the pulse be rapid from lowered blood pressure or weakness it becomes slower and steady after using the salt solution.

On the kidneys the effect is very marked. The renal function is stimulated to greater activity, and the amount of urea as well as the quantity of urine excreted is much increased.

Following the injection of normal salt solution the number of hemotoblasts are increased. (Henieck).

On inflamed or irritated mucous surfaces irrigation with the normal salt solution has a decidedly soothing and antiphlogistic influence.

The nervous system is markedly influenced by the injection of the solution. It has a decided sedative action. This is especially noticeable in the restless, excited condition following profuse hemorrhage and in the delerium of infectious states.

Grandular activity is stimulated and the tongue, which was dry and parched, bebecomes moist, and thirst is allayed. The secretory glands of the skin are also stimulated, and active diaphoresis results.

Hence, in conditions where we desire to dilute the toxins circulating in the blood; when we want rapid diuresis without causing renal irritation; in diarrheal affections attended with depression due to absorptions of toxins; before operations on anemic patints; in shock and collapse; in the surgical and puerpural infections; in eclampsia; in diptheria, pneumonia, urethritis, cystitis, and various other pathological conditions, the use of the normal salt solution serves admirably.

In view of these facts, it is somewhat strange that the use of the normal salt solution is so limited among general practitioners. No doubt the idea that complicated apparatus and very exact amounts of many different ingredients are essential, has deterred many from taking advantage of this very useful therapeutic agent.

When the salt solution was first introduced as a substitute for transfusion an effort was made to have the inorganic ingredients correspond closely with those of blood serum, hence the complex character of the normal salt solution as described in some text books. But experience has taught that the simple solution of sodium chloride in sterile filtered water of a strength of 0.6 of 1 per cent, or about a heaping teaspoonful of common salt to a quart of water is equally efficacious to the more complex solutions.

The sodium chloride may be found in every household. The water used should be boiled and filtered. Absorbent cotton makes a fairly good filter. To cool to required temperature the vessel containing the hot water may be placed in a larger vessel containing cold water, or it may be packed in ice.

As for apparatus, a number of instruments have been devised which are convenient and useful, but for all practical purposes the ordinary fountain syringe or douche bag, which now-a-days is a part of every well-equipped physician's armamentarian, will serve equally well.

For introducing the solution, the three routes most highly recommended are the rectal, subcutaneous and intravenous. The intra-arterial route has been employed but is condemned on account of the danger of gangrene and arterial dilitation. To use the solution by the mouth is not practicable because of the nausea it would produce, and also because in many critical states the gastric absorption is in abeyance. Of late years the procedure of filling the peritoneal cavity after celiotomy is coming into favor. It is said to obviate to a great extent the danger of post-operative shock, and to prevent the formation of adhesions. It also lessens the thirst and pain following operation and the tendency to suppression of urine.

The German surgeons have recently introduced the salt soda solution extensively in their elinics. 0.2 per cent. of soda carbonate being added to the regular normal salt solution and used in irrigating the wound. It is said to have a remarkable attraction for leucocytes, thus promoting the physiological process of repair, while it is free from the slightest irritating action on the tissues.

The rectal route is employed when the condition of the patient is not critical and the necessity for rapid introduction is not urgent. It may be used in urgent cases while the solution for subcutaneous or intravenous injection is being prepared. The rectum and colon are capable of absorbing enormous quantities of the normal salt solution. The therapeutic effects are precisely the same as in the subcutaneous injection. The advantages of this method are—

1. It can be administered by a nurse or other attendent.
2. The solution need not be sterilized.
3. It is painless.
4. There is no danger of infection.
5. The technique is simple.
6. There is an extensive surface for absorption.

In order to secure the best results with this method it is desirable to use a tube long enough to pass the signoid flexure and command the absorptive power of the descending, transverse and ascending colon. But lacking the long tube an ordinary rectal enema tube may be used. Before introducing the solution the patient should be given a cleansing enema. After this is passed the foot of the bed should be raised to obtain the benefit of gravitation. The temperature of the solution should be about 100 deg. F., for at the this temperature the absorption will be most rapid. If the stimulating effect of heat ir required a higher temperature may be employed. Ordinarily after a thorough cleansing enema the bowels will readily tolerate the presence of the normal salt solution for it does not irritate. From one to four pints may be used. Owing to the large extent of absorbing surface a considerable quantity quickly gets into the general circulation.

The technique of the subcutaneous method, as described by Byrne in Mercks Archives, is simple, safe and practical. When the solution has been prepared and properly sterilized and the site of injection thoroughly disinfected, the physician with aseptic hands holds the needle and allows the flow to start before introducing it, in order to remove the air and cold fluid from the tube. With the other hand a fold of skin in the axillary or retromamary region, or other regions where the cellular tissue is loose and easily distensible, should be grasped between the thumb and finger and elevated similar to the method employed in ordinary hypodermic injections. The needle is introduced while the fluid is flowing and is pushed into the subcutaneous tissue getting well beneath the skin but not penetrating the muscular tissue. The douche bag is usually suspended five or six feet above the patient. Gentle massage over the injected fluid will facilitate absorption, and the needle may be partly withdrawn and pushed in another direction. Heineck says that 700 c. c. may be safely injected through one puncture. The temperature of the solution should be from 100-110 degrees F.

The intravenous method is fully described in all late text books on surgery, and I need not take time for any description here. The fact that its results are rapid and that by it heat is brought directly to the cardiac and arterial ganglia is what recommends the intravenous method to many clinicians.

Some objections to the method, however, may be noted: When a patient has lost much blood, or, in cases of shock, the veins are difficult of access. In children and obese individuals the veins are not easily found. There is some danger of producing acute pulmonary edema. Cases of embolism phlebitis following intravenous injections have been reported. The procedure is more or less painful and requires rigid asepsis. Rapid intravenous injections may cause cardiac paralysis by over distension; hence, in all cases where there is cardiac lesion or myocardiac weakness, the subcutaneous route should be selected in preference to the intravenous. Atheroma and apoplexy are also contraindications for the employment of the intravenous method.

Some advantages of the subcutaneous method over the intravenous may be mentioned as follows:

1. The technique is much simpler and fewer instruments are required. A douche bag with six or eight feet of rubber tubeing and a hollow aspirating needle are all that is needed.
2. No anæsthetic, no incisions, no stitching of wounds is required.
3. No danger of introducing air.
4. The fluid being taken more gradually into the circulation, danger from sudden increase of blood pressure is avoided.
5. The subcutaneous injections may be given by any well-trained nurse.

I have already mentioned in a brief way some of the indications for the use of the normal salt solution. Would say further, relative to its use in shock, that probably there is no other therapeutic agent that will give such quick and satisfactory results. This condition being due chiefly to the accumulation of blood in the large abdominal vessels depleting the brain and other vital centers and causing the heart to falter from lack of proper stimuli, is overcome by the introduction of the normal salt solution into the circulation by either the subcutaneous or intravenous route. The increased volumn of circulating fluid acts as a direct stimulus to the heart and arteries. In this way the blood which was more or less stagnant is put into active circulation. Blood pressure in the peripheral arteries rises, due to the increased force of the heart beat, which has been influenced by the injected fluid. As arterial tension increases the heart receives a better supply of nourishishment through the coronary arteries and is thus enabled to maintain its normal func.

tion. The nerve centers—brain and spinal cord—receive increased supply of blood and soon regain their normal control over the vaso-motor system.

In uremic poisoning from one to three quarts of the normal salt solution injected into the bowel three times a day is highly recommended as one of the best measures to stimulate the kidney function. According to Volt this procedure will not only increase the quantity of urine passed, but very considerably augment the amount of urea excreted.

From what we know about eclampsia it appears that one of the most important indications is for increased elimination. The normal salt solution offers one of the very best means for stimulating all the enunctories and at the same time so attenuating the poisons present as to greatly lessen their influence on the nervous system.

In surgical and puerpural infections the use of the normal salt solution is strongly indicated.

In acute diarrhœal affections such as cholera, enteritis and dysentery, where enormous quantities of fluids are being separated from the body, lowering the blood pressure and weakening the patient, it is clear that a method of treatment which will restore the normal amount of fluids to the circulatory apparatus and to the tissues will be the rational one to employ.

B. J. Richardson says that "emptiness of the circulatory cavities is the cause of collapse in cholera. In these affections the injections of the hot normal salt solution into the bowel after cleansing enemata are found to be of great value.

In urethritis, cystitis and vaginitis irrigations with the normal salt solution will be attended with excellent results.

To quench thirst in those conditions where food and drink cannot conveniently be given by the mouth, such as after laryngeal intubation, injections of the salt solution may be employed to good advantage.

A Consideration of Injuries as Seen in Woodworking Factories.*

By Dr. C. A. Julian, of Thomasville, N. C.

I have been invited by the Chairman of the section on Anatomy and Surgery to present to the Society a paper on the above subject for two reasons; first, on account of my opportunity for observation, and, second, because it is one of wide interest to the profession to-day in North Carolina.

This subject is opportune, because our State is fast changing from an agricultural to a manufacturing section, and over her entire area is found every conceivable form of wood-working machinery; but it is with reluctance and misgivings that I attempt the preparation at all, not having felt that I could embelish the subject with literary merit such as would be fitting to present to so cultured an audience. However, my experience in this class of surgical cases has been large enough to emphasize the difficulties and the importance of the subject. If you care to hear from me at all, you care only for my personal experience and observation, not for the garnering of the wisdom of others. Few subjects in the whole domain of surgery, in my opinion, require more careful consideration. Conditions so far reaching in their effects, so disastrous in their results to a certain class. These injuries are attributable to recent inventions and the introduction of powerful machinery, moving with terrible velocity.

Factory injuries constitute by far the largest class of traumata with which we have to deal to-day, and modern surgery is teaching a conservatism which saves both lives and limbs. Especial qualifications are needed for this work, confessor, attorney, judge and surgeon. The diminutive attorney pillages your cases, debauch their profession, and hurry to the scene of accident in fustian style to blacken and make culpable and take under consideration in their artful way the amount of damages to be procured. Here is where conscience, not deceit; honesty, not pretension; conservatism, not display, should be our rule and guide.

Shall we stoop to gain the commendation of the curious in the bombastic exhibit of shining instruments and surgical temerity in the sacrifice of tissue that is so useful and so much needed in winning bread for the honest toiler, or shall we rise above the groveling and merit the reputation of conservatism instead of demonstrating how much we can sacrifice in a given time. Nothing brings so much dishonor on our profession, nothing so much disgraces the individual practitioner. The old adage that "Dead men tell no tales," is true, but maimed live men are often the everlasting monuments of our work.

I cannot entertain those who have wide and comprehensive experience, nor those who imagine the subject old and stale, but I am writing for men, young and old, who alike have felt, especially in emergency, when confronted with grave and serious cases and thrown wholly on their own resources, the gravity of their position, the greatness of their responsibility when the life or limb of a fellow being is at stake. I feel that but too often the knife has been wielded with a want of prudence that is simply disgraceful. We must be positive as to the extent of the injury before we determine what to do in a grave injury. This cannot be determined immediately in very many cases; we may be misled in the selection of the proper site for operation when the patient is under profound systemic shock. Tissues, apparently dead, may, if time be allowed, show a recurrence of vitality. On the other hand, time may prove devitalization of tissue which had at first seemed uninjured. You cannot determine after these injuries immediately between actually devitalized tissues and those in which the condition is due to "local shock." In the severe crushing injuries, such as those received by belts and pulleys, hydraulic presses, embossing machines, veneer, etc., there is invariably devitalization to a point more or less remote from the actual site, often at a great distance from it, how far this devitalization extends cannot primarily be determined.

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* Read before the North Carolina Medical Society at Hot Springs, N. C., June 3, 1903.

Immediate amputation will result in one of two things, either you will cut too low or too high. If too high, you will needlessly sacrifice what might prove a useful portion of a limb; if too low, the stump will slough, the bone will be left projecting and another examination will become necessary.

I will not theorize on shock, but when the injury is extensive I do not favor immediate operation. When there is no longer perceptible shock I operate. Some time since I was called to a veneer factory where a young white man had been caught by the tail of his coat in the large cog wheels that turn the powerful machine. In trying to extricate the coat, his elbow was drawn into the cogs, one-half of the forearm and the upper part of the arm to within three inches of the shoulder joint was ground into pulp. Instinctively he tried to wrench his arm from the grasp of the cogs, but the great muscular effort he put forth only intensified the injury, and in freeing himself tore the arm into shreds. I made him comfortable, applied the tourniquet, injected one quart of saline solution into his rectum, gave him hypodermics of strychnia and atropine, and nine hours afterward amputated near the shoulder joint. The mangled parts were filled with grease, dirt and shreds of clothing. The operation consisted in dissecting up a cuff until I found solid tissue. I then irrigated, scrubbed the cuff, fashioned it with scissors, sutured it closely, dressed with 10 iodoform gauze, and my patient made a rapid recovery by first attention, without any fever and with only one dressing of the stump.

This case is given in support of my views as to the time for the operation and the selection of the proper site. I will not pretend to inform you of the precise pathology of shock, but whatever may be the exact rationale of its production, it is the result of injury, and I can't believe that imposition of supplemental injury by amputation portends to the betterment of the patient's condition during this period of depression. With so much exhaustion already, and with the supplemental injury by amputation and depression caused by the anæsthetic, the immediate operation cannot do less than augment the already existing exhaustion. In the case cited, immediate amputation would have resulted in the shoulder joint operation, but, in waiting, enough tissue regained its healthful color and normal temperature to avoid it.

Various causes conduce to injuries of the fingers and hands more frequently than any other part of the body in these wood working factories. My object is, therefore, to beg for a conservatism in these minor operations. The very first duty is to reduce the effect of the injury. In every injury to the hand, no matter how serious, no matter what structures are involved, if there be good circulation, we should be very cautious about operating. On the other hand, of course, too great an attempt at conservatism is unwise. It is not wise to save a finger that is forever in the way. Upon our common sense, skill and judgment, will, in many cases, depend the result, influenced as it must be by the decision of a moment, but from the importance of the hand and because this member possesses a peculiar virtue, it is of paramount importance to preserve even small portions of phalanx.

I have selected a few cases as they occur to me from actual experience.

Case I.—H. B., owner of a small buggy shop, injured by attempting to dress very thin plank for a boot in a dull jointer. The first, second and third fingers were lacerated and bones broken into fragments. The thumb and fourth finger were badly lacerated, and a deep flap was torn from the side of the hand and out the entire length of the fourth finger. The hand was covered with dirt and grease and presented a shapeless appearance. I explained to the patient the almost futile hopelessness of trying to save any of the fingers, but he begged for the thumb and fourth finger, the others being torn and ground into pulp. The hand was made aseptic, instruments also. I amputated the first, second and third fingers, removed spiculæ of bone from the thumb and fourth finger, approximated intact fragments, reinvested the fingers of their integument, or as much as could be used. Seventeen cat gut sutures were required for the fourth finger, and several for the thumb to patch up the ragged edges. A dry dressing was used and not repeated for four days. The eighth day lymphangites supervened, redness and heat extended over the whole hand, wrist and greater part of forearm. The formation of pus was frightful, the remaining fingers became blue, and the hand presented a dirty, blackish look. I made long incisions throughout the hand, employed ten minute submersions of the hand in a solution of creolin, 1 to 200, every few hours. Copious antiseptic wet dressings being used in the interval. After that I kept the area thickly coated with icthyol ointment, and in eight weeks discharged the patient with two whole fingers and a good hand. There were times when it looked like recklessness to leave such a mass attached to a human being's arm, but I now present to you a very useful, if not a very shapely, hand.

Case II.—E. L., under foreman, chair factory, working a boring machine, instead of boring a chair post the bit entered his hand near fourth finger, in trying to extricate it he jagged the bit into the fourth finger, puncturing the bone and grinding it nearly to second joint. This was very difficult to treat. The extent of damages was hidden from view, and the very character of the injury, as can be readily understood, implied at least the possibility of deep seated inflammation. Foreign matter was carried into the joints, and to let the finger remain intact I feared serious consequences would supervene. The patient wanted his finger, so I carefully searched the wound, cleaned it and encouraged repair by adhesion. He now has a very useful hand.

Case III.—W. DcH., a latheman with only one hand was adjusting back knife when his only remaining hand was caught and three fingers split open. The bones were badly fractured, and the fragments displaced. Irrigated with weak bichloride solution, replaced fragments of bones, used dry gauze dressing. Result, recovery with restoration of function.

Case IV.—E. M., rounding corners of chair seat on shaper, let his right hand follow into the knife, and it shaped two fingers in the very latest and most modern style, making them look like wedges with a base at the hand and edge at tip of fingers. Amputated at the first joint and let the fingers round by granulation.

Case V.—T. W., division foreman, wagon factory. Showing new employee how to manipulate double saw for equalizing spokes, in making some emphatic gestures with his right hand one of the saws caught his thumb, second, third and fourth fingers, sawing them into long shreds. Amputation of all four fingers seemed to be the only rational measure, but they were cleaned, the parts of bone and other tissues were placed in good position, the thumb amputated between the second and third joints, dissected down to the first joint of second and third fingers, and covered the circular flap. The fourth finger was dressed and splinted in a slightly flexed position; result was good.

I could claim your attention with case after case, but the report is already too extended.

No one reveres the art of surgery more than I do; I am proud of the successes in this branch; I honor the man who performs his duty, and admire the daring surgeon who has the courage to wield his knife for the benefit of humanity. I do not take to ultra conservatism or the rhapsodical fancies of the disciples of Christian Science, but that in discovering a clearer and deeper meaning.

Those surgeons who are devoting their lives and best energies to its advancement, can take comfort in the conviction that their efforts have not been in vain, and justly cherish the hope that what has been given in the past is only a small boon compared with the vast wealth of benefit to humanity which the future will bestow. What I protest against is the indiscriminate operating, against the extremist who does not temper his thirst for notoriety with common sense. I believe in that conservatism, the employment of surgical treatment with the aim of preserving and rendering serviceable a part, rather than removing it.

Diseases of Women and their Treatment by the Country Practitioner.*

By K. G. Averitt, M. D.

Mr. Chairman:—It is not my purpose to enter into an elaborate or classical discussion of the diseases of women and their treatment. My purpose is to discuss, in a general way, Gynecology as a whole, and the difficulties encountered by the country practitioner in its practice. If I shall say anything that will evoke discussion of a helpful nature my object will be accomplished.

This is a branch beset with many difficulties to the country practitioner, and it is very common to find men, who are thoroughly at home in the other practical branches of medicine, who fail in diagnosis and treatment of this class of cases. This arises from a number of causes, and to bring out discussion as to the best methods of overcoming these difficulties, is the main object of this paper.

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* Read before the North Carolina Medical Society at Hot Springs, N. C., June 3, 1903.

Among the chief causes that hinder the country practitioner in treating the diseases and conditions met with in the practice of this branch, are the idea that the treatment of diseases peculiar to women requires a high degree of surgical and medical skill, an expensive array of instruments, the difficulty of obtaining assistance when needed to perform any of the ordinary operations, the distance of the patient from the doctor, and the inability of the woman to comply with the physician's instructions.

These obstacles have given me much trouble, and I am sure they have been discouraging to other country practitioners situated like myself. I have spent many hours and much study in trying to arrive at some way of overcoming these difficulties, and any suggestions from this honorable body will be highly appreciated.

I have largely given up the idea that the treatment of these cases requires such a high degree of skill, or any very expensive instruments, and by paying special attention to the various methods of examination and the etiology of these cases, find the treatment much simpler than I once thought it was.

Of all the methods of examination, the bimanual is the most important. The speculum, the sound, and other methods of diagnosis are very useful, but the bimanual is the method above all others that enables us to map out the contents of the pelvis and their condition. To successfully practice this method of diagnosis, it is of the greatest importance to be able to determine what lies between the finger on the inside and the hand upon the outside. This is often a difficult thing to do, and the ability only comes from long and careful practice. The beginner is expecting something with definite outlines like the oval fundus represented in the text-books. The thing to be felt for and noted is the presence of a solid body between the fingers, its mobility and position, the presence of tumors, their relation to the uterus and ovaries, the position and size of the ovaries, and whether a tumor is solid or not.

I also find it very helpful in treating these cases to bear in mind the most important points in their etiology. It is well to remember that among the various causes of gynecological disease, venereal diseases, child birth with its attending injuries, and sepsis, have been and will continue to be the most important and frequent. Of course there are many other causes, but these are the most important to the country practitioner. Of the minor causes, the lack of attention during the establishment of menstruation and during menstrual periods, efforts to prevent conception, traumatism and occupation, are probably the most common.

By bearing in mind the main points in the etiology, it is readily seen that the treatment is preventive, antiseptic and supporting.

The treatment of troubles arising from venereal diseases is preventive and curative. Of the venereal diseases, gonorrhœa is by far the most common, and the only one often seen by the country practitioner. A very large per cent of the unfortunate women suffering from troubles of a gonorrhœal origin, have been infected by husbands in name but not in principle. Of all the pitiable sights I ever saw, the most pitiable is an innocent woman infected by a brute of a husband, and doomed to a life of misery and invalidism. Such a woman always has my sympathy. Many of this class of cases can be prevented or greatly ameliorated, if the physician is on the alert.

As a general thing, the husband applies to him for treatment for a discharge following a suspicious exposure, and if he is careful to warn the man of the immense danger to his wife, and the frightful consequences that may follow infection, he will very likely desist from intercourse, or make a business trip off until the physician can get him out of trouble, if there is any of the man left in him.

If the poor woman is already infected when the situation is explained to the doctor, the treatment resolves into the antiseptic and antiphlogistic treatment of specific vaginitis, endometritis, and the various inflammatory troubles, ever being on the alert to prevent extension to the ovaries, tubes and peritoneum, if possible.

As to the troubles arising from childbirth and sepsis, the treatment is also preventive and curative. The time to prevent these troubles is during parturition, and the puerperal period. The physician, by all means, should be a good obstetrician, and if he is thoroughly qualified in the practice of this branch, his gynecological cases will be comparatively few, because the most of his female patients will be women whom he has attended in confinement. The physician should, therefore, be very careful to correct all injuries of the perineum at the time of their occurrence, and by carrying out in detail the principles of antiseptic midwifery, endeavor to prevent the gynecological diseases arising from this cause. If he is so unfortunate (as he often will be) to have a patient who has not received the proper attention along this line, and she is suffering in consequence thereof, he should remember that the treatment is operative for the correction of injuries; mechanical and operative to overcome displacements; antiseptic, surgical and supporting for septic conditions.

As to the difficulty of obtaining assistance when required to carry out some special line of treatment, or to perform some operation, I confess that I am often put to my wit's end. Patients are often fifteen or twenty miles from another physician, and often too poor to bear the expense. What are we to do with these cases? In many of these cases assistance is indispensable. Sometimes by fully explaining the situation, and urging the necessity of consultation, I have been able to get assistance. At other times, entreaties for help have been unavailing, and I have been forced to do the best I could under the circumstances. When absolutely compelled to rely upon my own ability to relieve the woman, I have found it a very good rule to reflect a little. By carefully thinking about the case and the various methods of treatment at his disposal, the physician will often be able to do much to alleviate the sufferings of the woman.

The most frequent cases occurring in the practice of the country practitioner are, probably, those conditions requiring the use of a curette. If a sharp curette is necessary, I think an anæsthetic is required, and would not like to attempt the operation without an assistant; but I find that I can often use a dull curette, or a McDade spiral curette, to advantage without an anæsthetic. Another great aid to the country practitioner in these cases is a Garrigue's weight speculum. The bivalve specula of various kinds are valuable for the inspection of the cervix, but they conceal the anterior vaginal wall, distort the cervix, and cannot be used in operations on the vagina or uterus. Sims's speculum has never been equaled in simplicity and usefulness, but it requires an assistant to hold it. These objections are overcome in Garrigue's weight speculum. It is self-retaining, and by its own weight perfectly retracts the perineum. Another advantage is the fact that this speculum is used with the woman in the lithotomy position. This is a very great advantage to me, as I have always found it easier to use a curette in this position, and it renders manipulations on the vagina or uterus easy of performance.

Many cases, however, such as sharp curettage, operations for a lacerated perineum or cervix, will require the use of an anæsthetic, and if the physician is unable to get assistance, or feels himself incompetent for the task before him, he must content himself with palliative measures, or refer the patient to the specialist. The latter is the sensible course to pursue.

The distance of the patient from the doctor, and her inability to comply with the instructions of her medical adviser, are difficulties hard to overcome. Patients are often located so far from the physician that he cannot see them more than once or twice a week, and it is, therefore, impossible to carry out the classical methods of treatment described in the text-books. The patient is also often unable to comply with the physician's instructions because she has to perform all of her household work, besides looking after a large family of children. In consequence of this she cannot take the rest so essential in the treatment of diseases peculiar to her sex. This is a serious difficulty, because *rest* is the treatment par excellence of female complaints.

To overcome these difficulties has always been the cause of much thought and anxiety on my part. The distance of the patient from the doctor can sometimes be overcome by persuading her to spend a few weeks with some relative who may live near the physician, or, if he is situated so he can, he can make arrangements at her expense and with her consent for her to board with him or near him for a few weeks or months.

If the woman cannot leave home and board near the physician, or if it is impossible for her to comply with his instructions, I have found the use of the hot water vaginal douche given frequently with the woman on the back, with the hips elevated, and the use of some good vaginal suppository or wafer, to do about all that I can do for women so unfortunately situated.

As a case in point, I will mention a case I had some time ago. The woman lived 8 miles from me. I found her suffering with a prolapsed and retroverted uterus, and the vagina in a very relaxed condition. I replaced the uterus, and directed the woman to remain in bed until I told her to get out, and to assume the knee-chest position for half an hour each day. I ordered a hot vaginal douche every second night to be followed with one of Micajah's uterine wafers. This treatment soon relieved her, and she is enjoying very good health. I have also relieved and cured a good many catarrhal conditions of the vagina and uterus, cases of subnivolution and pruritus vulva with these and other wafers, that I could not reach with any other method of treatment, owing to the difficulties enumerated in this paper. Lately I have been using Benzinger's thymol wafers, put up by the Thymol Drug Company of Baltimore, and have found them very efficient. I especially like this wafer, because the formulæ is given on the box, and it is, therefore, perfectly ethical. Other suppositories put up by various manufacturing chemists are, perhaps, just as good, and if the physician is thoughtful he can get up a formula to suit him and have them made by any manufacturing house. This method of treatment, I am aware, is not that described in the text-books, but I simply mention it to show how it has enabled me to overcome some of the difficulties in the practice of this branch.

In conclusion, I would repeat that this is branch beset with many difficulties for the country practitioner, and the treatment has not been outlined in a classical way, but by paying special attention to prophylaxis and using every available means of overcoming difficulties, I think much more can be done for this class of patients than often is done.

Some Experiences in Obstetrics. Twenty Cases of Puerperal Eclampsia; the Induction of Premature Labor; Retained Placentæ.

By Dr. L. B. McBrayer, Asheville, N. C., Ex-President Buncombe County Medical Society, Member Mississippi Valley Medical, American Medical, and North Carolina State Medical Societies; Visiting Physician and Surgeon to Mission Hospital, Asheville, etc.

I have treated twenty cases of puerperal eclampsia, including those seen in consultation. Of these twenty cases, eighteen were primipara, one was a 3para and one was a 6para. The convulsions ranged in number from one to forty. The case having forty convulsions was fifteen miles in the country, and had been having convulsions eighteen hours when I was summoned to her bedside, child still born. Another case was in McDowell county, and the patient had been having convulsions twelve hours when I reached her, child still born. One set of twins, remainder single birth. In the case of twins, patient had four convulsions, first child was delivered with forceps, in a healthy condition, and is a healthy ten year old boy to-day. The second child was a breech presentation, and was delivered by traction on feet, following the first in fifteen minutes, but was dead. All the other eighteen children were born in good condition, and so far as I know are alive and healthy to-day.

When called to a case of eclampsia, my rule has been to give one-half grain of morphia hypodermically, administer chloroform, and terminate labor artificially at the earliest possible moment. In every case, save one, the convulsions have continued until the uterus was emptied; that case had only one convulsion; administered morphia, one-half grain, consciousness returned, gave large doses of salines, sent patient to Mission Hospital where she was delivered a few days later per via naturalis, without any untoward symptoms. In all cases, save two, the convulsions began after pains were established, and nature was usually kind enough to dilate the os, which greatly facilitated matters. One of these cases was one mentioned above, and the other was the case in McDowell county. This latter case had no pains, and was thoroughly comatose between convulsions. I dilated os with my fingers as large as I could, until it would admit small goose egg, and applied forceps with the head engaged in the superior straight. This I found quite troublesome, because when I introduced first blade, which was easily done, it pulled cervix so far to that side that I found it most impossible to get the other blade inside the os, and did not succeed until I caught the cervix with a uterine dressing forceps and pulled it down, and had an assistant hold it while I introduced blade of forceps, which was then easily done. It required about twenty minutes to finish dilation of cervix, and ten minutes more to complete delivery.

In none of my cases did convulsions continue after uterus was emptied. There was albumenuria in every case save one, a negress; and specimen of urine could not be obtained until the fifth day after confinement. But albumenuria must have been present, as patient had albumenuric retenitis sufficient to cause total blindness for four days, which cleared up completely by the end of a month. This is the only case of material interference with vision noted. But in every case the albumen disappeared in from six to thirty days, usually in about a week. One case, 6para, was followed by puerperal mania, which lasted two months, with complete recovery at the end of that period; patient has had normal labor and puerperium since; all the other cases had a normal puerperium. The after treatment has consisted of salines, cathartics, diaphoretics and diuretics; consisting mostly of calomel, hot baths, and bashams mixture, and a diet restricted to butter-milk.

I think I have warded off convulsions in three cases by giving the treatment mentioned above for several weeks prior to date of confinement; and giving chloral hydrate and bromide of potassium freely during and just before labor. One of these cases came so near having a convulsion that everything grew very dark, as she expressed it, during the last pain. And in three cases I have failed to keep off convulsions by this treatment. The other seventeen cases were seen for the first time during labor. The per cent. of recoveries in mothers has been one hundred. The per cent. of living children delivered has been eighty-five, and the percentage of still born children has been fifteen. Not counting the two cases that had been having convulsions twelve and eighteen hours, respectively, I delivered eighteen living children in eighteen cases—one dead child.

Production of Premature Delivery.

It has been my misfortune to feel it my duty to terminate labor before full term in three cases:

Number One was a 9-para, was comatose at six months with chronic Bright's disease, which at the time I could not differentiate from the coma of eclampsia; delivery was entirely artificial, and was completed in three hours. Patient recovered slowly from coma, and died at the end of twelve months from her chronic nephritis. The vision was entirely destroyed in this case by albumenuric retinitis and hemorrhage into the choroid. There was also blood in the urine, both by macroscopical and microscopical examination. About one month after delivery no blood could be found in urine, but sight was never restored.

Number two was a 4-para, and had persistent vomiting of pregnancy; tried everything that could be thought of, heard of, or read about, in the way of medicine, from cerium oxilate to essence of pepsin, and all kinds of food, from fried cabbage to liquid peptonoids, until the stomach absolutely refused to retain anything, not even crushed ice in champagne, for one moment. I then began on the other end, and gave all food and drink and a little medicine by the rectum, until that organ also refused to obey my commands or entreaties, at the end of which time, which was about four and one-half months, my patient was so near the pearly gates that she could see within the portals, and she was perfectly willing to enter, and just as willing to go to the other place, or anywhere else, to get rid of that terrible nauseau; pulse 130, temperature 101½; at this stage I terminated the pregnancy, and found a uterine mole. I introduced uterine sound into uterus to bring on labor; pains came on in fourteen hours; nauseau stopped immediately after I entered the uterus, patient took some nourishment before uterus had emptied itself, and she had an uninterrupted recovery; has given birth to two children since with normal labor and puerperium. The eloquent clergy may be fond of giving their supporters glimpses into the City of the new Jerusalem, but as for me I shall never allow another patient of mine to go so near the brink with pernicious vomiting of pregnancy.

Number three, primipara, aged 20; was seen at request of Dr. W. L. Dunn, of Asheville, N. C., who was treating her for tuberculosis; husband also tubercular; had had more or less treatment for nauseau; five months and one week advanced; had had distressing nauseau since beginning of second month. Stomach finally refused everything, and rectum was never very much better; for the last ten days while we were testing the efficacy of rectal alimentation, patient vomited mucus and bile every day, although nothing was swallowed, unless it was saliva. Patient already thin and anæmic from her tubercular process, lost fifteen pounds more during this trying ordeal, which brought her down to ninety pounds; temperature normal, pulse 100. Dr. Dunn reported that the tubercular process was at a standstill, and of course she was receiving no treatment for that trouble. Brought on labor by rupturing membranes with uterine sound, and introducing catheter into uterus and keeping it there by vaginal tampon. Of course all known precautions as to asepsis were taken. At the end of twenty-four hours patient had a chill, and temperature went up to 102; removed catheter and gave vaginal douche, sterile water; temperature fell to normal in twenty-four hours, and at the end of seventy-two hours from time of invasion of uterus pains came on, and eight hours later delivery was complete. This was June 8th, 1902; patient at this time seems to be in good condition. It is my opinion that tubercular married women should be warned not to allow themselves to become pregnant, and instructed, if necessary, how to prevent it. Further, should a tuburcular woman become pregnant, I believe, in justice to both mother and offspring, the pregnancy should be terminated as soon as it is diagnosed.

Transverse Implantation of Placentæ.

That we do have adherent placenta is true, that it is very rare, only a few times in 1000 cases, is also true, and the accoucher should never introduce hand into uterus to remove placenta, except when it is adherent. That we often have retained placentæ is also true, and this often, or nearly always due to what I term transverse implantation of placenta; or even if it is a little oblique, it is sometimes impossible for the uterus to expel it. I have seen one case of this kind in a negress, where placenta had been retained for six hours, although she had had hard after-pains every few minutes, as she termed it; and another case that had been retained for eight hours, with firm uterine contractions. In these cases I do not practice Crede's method, but sit by side of patient, place hand on abdomen on fundus uteri, depressing the ulnar surface of the hand as far behind the uterus as possible, hook the fingers around the opposite cornua of uterus, pressing the heel or palm of hand downward, thus tilting the transverse placenta on its end, when it is always delivered promptly. I havn't had my hand in a uterus after a full term delivery, to deliver a placenta, in seven years.

The General Practitioner in Relation to Specialism, with Special Reference to Ophthalmology.*

By H. H. Briggs, M. A., M. D., Asheville, N. C., Ophthalmologist and Oto-laryngologist to the Mission Hospital [Asheville], and Clarence Barker Memorial Hospital [Biltmore], Member of the Buncombe County Medical Society and American Medical Association.

Since the era of specialism began there seems to have been diversity of opinion as to the relation which should exist between practitioner and specialist, and as to what constitutes a specialist's field. This may be partly due to the lack of appreciation of the fact that upon specialism depends the progress of medical science and therapeutic efficiency. It bears to medical science the relation that division of labor does to the manufacturing arts. But the lack of perfect harmony has been most probably caused by the avalanche of quacks and charlatans lauding themselves in ink and paint as specialists to the extent that the general practitioner and even the laity must receive the newly arrived specialist in the town with a goodly lump of salt. More potent still toward promoting these strained relations have been that class of so-called specialists who advertise a specialty and practice it long enough to become introduced by the supporting profession and then convert it to a stepping stone to a general practice. It is a case of robbery unprovided for in the criminal code; and yet how many of us have been robbed!

A specialist is not an offshoot from the tree of medical science, but he is a branch thereof, and a branch only. He is an adjunct to the general practitioner. The fallacy is often made of considering a specialist as one who is specially equipped for the treatment of diseases which have certain local manifestations, rather than the local manifestations themselves of whatever cause or predisposition. The ophthalmologist should be prepared to recognize the fundus lesion of Bright's disease, but all his training in ophthalmology does not enable him to treat the nephritis as well as would the generalist; nor should he, as a conscientious man, undertake to treat the general predisposition causing the local manifestation except as a consultant; for, aside from being incapable, he is stepping aside from the line of his chosen specialty, and, in so doing, is taking upon himself the responsibility of the patient's general physical welfare which rightly belongs to the generalist. It is conceded that a few diseases belong distinctively to the specialist as do many to the generalist, where nothing would be gained by consultation, since there is no common meeting ground.

The field of medicine is so extensive that no one is capable to grasp and intelligently practice all its interstices, and the specialist has been evolved to meet the difficulty. He is supposed to concentrate along a limited line and supply himself with adequate paraphernalia which would necessarily hamper the general practitioner. It is the duty of the latter to acquire such working knowledge of the theory and practice of medicine that he may be able to diagnose any disease sufficiently accurate to intelligently treat it himself, or, if its seriousness or complexity demand, to consult one, if possible, specially equipped to cope with such diseases. He is conscientiously bound to give his patients the benefit of such special means of diagnosis and treatment as is obtainable and which is called for in his practice. Conscientiousness is a never failing guide in medicine, and would eliminate much of the superficiality in the one who attempts too much. But the superficiality of the generalist is no worse than the narrowness of the specialist who oftimes fails to realize the intricate relationship which the function of one organ has with the general physiology.

The foregoing pertains to the relations between the general practitioner and specialists *in general*, but the applications are equally true to the ophthalmologist.

I believe that the importance of the eye in relation to the general health is not sufficiently appreciated. The human body is an entity, and no one organ or system can be deranged without others being affected. All the tissues of the body are represented in the eye and its appendages, rendering it subject to all the pathologic changes of other organs. The cutaneous eruptions of strumous children are concomitants of the phlyctenulæ of the epithelia of the cornea. Specific iritis is an example of the mesoblastic selection of syphiiis, and the nothces of Hutchinson's teeth are a fault of the mesoblastic dentine rather than the epiblastic enamel.

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*Read before the North Carolina Medical Society, at Hot Springs, June 3rd, 1903.

The eye may suffer from lesions far remote. Certain changes in the eye may accompany diseases of the brain and spinal cord and lesions of more distant organs which may also be the expression of general and constitutional disease.

To the general diagnostician of recent years the ophthalmoscope has become indispensable. No organ can be so carefully and completely examined as the eye and none reveals so many manifestations of systemic conditions and disturbances. Within the eye the blood current and pulse may be watched and the condition of the vasomotor system determined. The fundus often reveals disturbed cardiac and nephritic functions. The pupil may be the ori t means of locating cerebral tumors and lesions, and affords objective symptoms indicative of spinal inflammation and degeneration. The conjunctiva readily shows hyperemia in hectic and anemia in impoverished vascular states. Acuteness of vision is readily disturbed by nervous and vascular affections. Debilitating conditions exagerate muscular anomalies and diminish the power of accommodation. Inactivity of certain extrinsic muscles with a tendency to ptosis and a dilated pupil mean a disturbance along the third nerve, which may lead to a diagnosis of a tertiary or congenital syphilis, tumor formation or other diathetic disease. A contracted field of vision and central scotoma are often found complicating nervous diseases.

Ocular affections may cause many and diverse symptoms in the general system, and we are often led thereby to an incorrect diagnosis of some disease common to the organ reflexly affected, and especially is this true of errors of refraction and accommodation and anomalies of the extrinsic muscles.

The amount of energy expended in the function of vision is more than that of all the other senses combined, and when there is defective vision from any cause this expenditure becomes manifold. In fact the drain of nerve energy is often so great that other organs suffer from the insufficiency. This is exemplified in ametropia and especially in heterophoria. In a congenitally weak stomach indigestion may result, and no amount of medication and dietetics will relieve it, and in a predisposition to a weak kidney a retardation of waste products ensues. But especially does eye strain affect the mental activity. I have known students in graded schools and college to suffer from eye strain to the extent that their grade, notwithstanding their ambition for honors, was merely sufficient to keep them in their class, and yet their stand was among the first after their ametropia was corrected. An astigmatism of one diopter in most every case is sufficient to hinder a student from at least night study. In hypermetropia the effort on the ciliary muscle is uniform since every portion of the zonula of Zinn must be relaxed; on the contrary in astigmatism diametrically opposite portions of the muscle must contract in accommodation in order to relieve the tension on the lens along the meridian of least refraction. This effort is, of course, greater than that in hypermetropia of equal degree, but in each case eye strain results.

In the imbalance found in the intrinsic muscles of the eye we have every degree of deviation from that of a slight tendency to a marked squint. The heterophorias are those tendencies to squint where the imbalance does not produce an actual deviation of the visual axes from parallelism except under favorable conditions, but a tendency thereto—the effort for binocular vision rather than diplopia furnishing the necessary stimulus to hold the visual axes in proper relation during the visual act. But if one eye is covered while the other is fixed on a distant object the covered eye is no longer influenced by this stimulus but moves in the direction of least resistance, which is in the direction opposite to its insufficiency. In many cases a small muscular imbalance has incapacitated one from close application to work. The effort produced to converge the visual axes to the point of fixation is, in some cases, unbearable, causing headache, indigestion, nerve fatigue and neurasthenia. Such patients complain that they are completely tired out from head to foot whether they have worked or not. It is not unlike the effort of holding the arm at right angle to the body during the waking hours. It is easy for the moment, but soon becomes an impossibility.

Squinting eyes cause much less trouble, for in them the visual exes are at such great angle that no attempt is made to get binocular viision, and a suppressed image in one eye results, but the suppression is psychical rather than physical, and little expenditure of nerve energy is necessitated.

The general practitioner and the ophthalmologist and, for that matter, any other engaged in special work, are mutually dependent one upon the other, and the more each realizes the light to be reflected from the other's field upon his own, the clearer will his own work be and the better prepared will he become to relieve suffering humanity.

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TRAINING SCHOOLS FOR NURSES.

The increasing demand for trained nurses in every part of the country, and the increased knowledge and skill required of them, seems to be attracting the attention of this new profession, as well as medical gentlemen. The questions which naturally arise in this connection: Is there a necessity for the rapid raising of the standard in this department of education as in the other divisions of collegiate and scientific work, and should a preliminary educational requirement prevail? Should the practical and technical training co-exist, or should they be separate? All of these phases of the subject are of some importance and of practical interest, for they will influence the statistics of the surgeon and physician to a far greater extent and in a much shorter time than many of us realize.

Nursing has ceased to be a calling, the duties of which were once on a par with those of a house-maid. It is fast becoming one of the liberal professions. Its members are organizing both locally and nationally. Their necessity and their very great value to suffering humanity are fast becoming recognized by the people. This is the situation as we have to deal with it to-day, and it is the duty of all medical gentlemen and the medical press to help shape the policy of this auxiliary profession, and to discuss with its members the difficulties which are likely to retard their progress as they arise. The first proposition has almost the same relations to nursing as it has to the older profession, and will be for some as difficult to decide. Educational standards should not, in the writer's opinion, be encouraged or enforced until the number of nurses equals the demand for them. It will be many years before this desirable state of affairs will be realized. Now we have only about thirty thousand nurses in the United States. They have increased at the rate of about one thousand each year. It has been conservatively estimated that one hundred and fifty thousand women could find profitable employment in this new profession. If this statement is true, and I believe that it is, there is no immediate necessity for idleness among nurses, and, further, if we notice the growth of training schools and the rapidity with which new ones are being established, and the conservatism manifested in the older ones, there is no reason to encourage the hope that the number of recent graduates will be greatly increased for several years to come.

Dr. Weir Mitchell, of Philadelphia, is the author of the plan of separate institutions for the education of nurses. His idea is to have not only a preliminary standard for nurses entering training schools, but proposes that they be technically trained for a year or more in an institution especially appointed for this purpose before they enter a nursing institution or a hospital where practical nursing is taught.

This plan is fully twenty years in advance of practical possibility. Young ladies who are well educated and who are willing to spend money and considerable time to especially prepare themselves to enter a hospital training school with these high ideals and exacting requirements are indeed very few. With all of these accomplishments, they can find more profitable employment in other ways. Besides, there is no necessity for separate schools for the training of nurses. This art can be better learned in a well-equipped hospital where all kinds of medical and surgical cases are treated, and where the patients are not all possessed with refined and sensitive ideas, where the most resourceful nurse is taxed to her utmost to satisfy the perverted notions of this class of patients, nor should all of their experience be with the lowest and coarsest types of our race whose management and care is usually as disagreeable as it is singular. This kind of an institution with technical teaching possesses all the requirements of a training school. It gives its pupils experience in every line of work pertaining to their profession. All practical work without a knowledge of the fundamental principles of the art is unjust to the pupil, a wasted effort, and a loss to the community.

It may be proper, and it may not, for me to mention the belief that it is very improbable that a proportional financial reward will ever be realized by those who accept the suggestions made by Dr. Weir Mitchell. They must not lose sight of the fact that often their work and their very best efforts are for humanity's sake and not for money. I would be the last man to begrudge the hard-earned and small fees received by this class of over-worked and conscientious women. At the same time it may not be amiss to express an opinion that there is very little to encourage the hope that the maximum fee for nursing has not already been reached.

ANESTHESIA AND SAFETY.

Since the generally adopted use of chloroform and ether for anesthetic purposes, by reason of the shade of danger or risk that exist in the use, there has been an earnest and patient effort on the part of individuals to discover or devise a preparation or means by which anesthesia may be produced, under proper and rational care, which will be entirely free of untoward results, both direct and indirect, from the influence of its employment.

In the use of both chloroform and ether, while the results show fair freedom of direct danger, yet statistics give an uncomfortable record of casualities as well as other evils which follow in the wake of their employment. Various preparations have been evolved which in a measure are nearly the desirable anesthetic; safe, practically, from direct danger, which, however, in their use, do not give the complete anesthetic effect, or power for continuance of that effect, which is desired in a perfect anesthetic.

Dr. David H. Galloway, of Chicago, "Report of 250 additional cases in which Nitrous Oxide was used alone or as a preliminary to Ether or Chloroform anesthesia,"—American Medicine, Feb. 14, 1903, says: If found, the ideal anesthetic will be devoid of danger to the patient; will produce profound anesthesia without producing any unpleasant sensations to the patient in the administration and will cause no bad after effects.

Dr. Chas. Stanley White, of Washington, D. C., in an article read before the Columbian Medical Society, April 11th, 1903, a paper, "Nitrous Oxide–Ether Anesthesia," says: "That the stage of excitement is avoided, is a lever to raise Nitrous Oxide–Ether Anesthesia in favor, and that is just what has popularized it. The abolition of the sense of pain and consciousness requires such an impression upon the nervous system, that there is always an element of danger, but in Nitrous Oxide we have the safest substance yet discovered."

H. C. Wood, quoted by Dr. White, says: In disease of the kidneys, Nitrous Oxide is probably far safer than any of the liquid anesthetics.

Buxton says: Whether death from syncope, due wholly and solely to Nitrous Oxide, has ever taken place, is doubtful.

Hare, in his "Practical Therapeutics," in regard to Nitrous Oxide, says: "It is safest of all anesthetics, not excepting cocaine."

Besides this great advantage to be gained by the use of Nitrous Oxide as a preliminary to the use of ether or chloroform, it could well be used quite frequently in the operating room and office for many minor operations, and thus reduce quite numerically the occasions of using ether or chloroform. Dr. White, in the article quoted above, says: "I have given the gas alone for treating cancer of the cervix uteri with the electric cautery, examinations, vaginal incisions, with very gratifying results."

The use of laughing gas alone in dispensary work will be found a valuable aid in many examinations and minor surgery.

Dr. White sums up with the following suggestions, which are very important ones, and are undoubtedly strong reasons for the use of Nitrous Oxide and Ether, and should induce many to use that form of anesthetic. He says: "The advantage of the gas-ether method are its safety, elimination of stage of excitement, rapidity, minimum nausea and vomiting following and saving ether."

Let the use of this gas be continued and used in every case possible, alone or as a preliminary to ether and chloroform, until the profession is entirely familiar with the technique; and surgery will undoubtedly be greatly enhanced.

COLLECTION AGENCIES.

Undoubtedly there are individuals yet in our profession, probably quite a percentage, who are ready to be duped or imposed upon; otherwise there would be no effort to cater to their wants by schemers. What we particularly wish to ventilate, so that some, who might be tempted by the attractive looking bait, will be apprised of the well hidden barb, that will hold and at the same time lacerate the one caught, is the Collection Agency, which sends its representatives to you, who endeavors to convince you that they can collect all of your old outstanding accounts, it matters not how old or unpromising these accounts may be, they are willing to take them, using very plausible language, and will show you letters from other physicians who have been greatly benefitted (?) by the agency. They do not, however, show any of the letters which they receive on the other side, and they could show many of this nature if they choose, but that would not be a good business course for them.

These agencies, or companies, are the best collectors—for themselves, however. In every case, if one studies the matter, reads carefully to understand rationally the wording and form of the contract which the representative presents, it will be noticed the barb is neatly concealed, and that the Collection Agency has made the collection of their fee quite sure, whether any service is rendered the client by the collection of his accounts or not; in every event the agency is the one most benefitted.

There is no physician but who will be able to collect more from a list, even of quite old accounts, if he goes about it in a business manner; and he will remain in a much kinder position before each person from whom he collects accounts as well as those with whom he fails.

For the few dollars that he might possibly collect through such foreign aid, he will have more ill feeling than will justify him. Not that we argue or wish to influence physicians against using all reasonable means for collecting their just dues, but it is the method that we caution against where the physician is made to pay for what he does not receive and to an undeserving party, and is thus victimized.

The best plan is to look after your accounts yourself, while they are yet young, and while the individual can readily recall the service which was rendered.

Dr. Tate, before the Cincinnati Academy of Medicine, Feb. 16, 1903, said: "As a boy I became impressed with the following: Gratitude existed only in those who paid their bills, and the one who penned the following had some experience:

"The danger o'er, the patient is delighted,
God is forgotten and the doctor is slighted."

Every honest doctor should receive his just dues for the service which he renders. In every instance where the person who is responsible, and who is in a financial position at all to pay for what is received, the fee should be collected, and that soon after the service has been rendered. The benefit which a physician renders is usually a commercial one as well as an act of mercy.

THE MEETING OF THE INTERNATIONAL CONGRESS FOR THE PREVENTION OF TUBERCULOSIS.

Dr. H. B. Weaver of Asheville, N. C., President of the State Medical Society has appointed the following physicians to represent the Society and State at the approaching meeting of the International Congress for the Prevention of Tuberculosis, to be held in Washington, D. C., in April, 1905:

J. Howell Way, of Waynesville; S. Westray Battle, C. P. Ambler, J. A. Burroughs, of Asheville; J. P. Munroe, of Davidson; E. C. Register, I. W. Faison, of Charlotte; C. A. Julian, of High Point; T. E. Anderson, of Statesville; R. S. Young, of Concord; R. H. Lewis, of Raleigh; W. A. Knox, of Raleigh; Geo. T. Thomas, of Wilmington; J. M. Parrott, of Kinston, L. J. Picot, of Littleton; W. A. Whitehead, of Rocky Mount; W. H. Cobb, of Goldsboro; Oscar McMullen, of Elizabeth City; G. W. Long, of Graham; H. S. Lott, of Winston.

This Congress will be composed of many eminent physicians from all parts of the world. The meeting will be of universal interest and importance. It is an international effort to prevent the increase of tuberculosis. This is a disease that is preventable and prevalent in every nook and corner of the world. The highest medical thought is making an organized effort for its prevention as far as possible. Owing to the improved sanitary conditions and the more intelligent ideas concerning the disease it is becoming less prevalent in the United States. However, in some sections of the United States it is increasing, certainly in the New England States. Measures looking to the care of patients by the government and State will possibly be considered which are in line with advanced legislative enactments now in force in other countries.

THE MEDICAL PRACTICE ACT AND THE TREATMENT OF DISEASE.

For years members of the medical profession worked and strove with legislators and legislatures to bring about measures that would regulate and control the additions to the corps of medical practitioners. It was the establishment of a means by which the numerous graduates of medical colleges could be tested and passed upon by a select body of medical men, well qualified for such work and acting independent of any college interests; whose duty it is to examine all graduates as to their fitness and qualifications, measured by a recognized standard, who expect or contemplate locating in the practice of medicine in that respective State. The standard of qualification to be graded according to a special quantity or percentage in the prescribed course of medicine, whether of the regular, homeopathic or eclectic school of medicine, as the case may be. State after State passed and adopted such laws until at this date nearly every State and Territory in the Union have their established Board of Examiners; and all graduates in medicine, before being allowed to enter upon the practice of medicine, must appear before one of these several boards, as is indicated by his system of practice, and undergo an examination for the purpose of proving or showing his ability or fitness to enter upon the practice of medicine. Only after a successful examination is he granted a license to practice.

This plan has the confidential consideration and endorsement of the best thinking minds of the country, and is generally recognized as being entirely fitting for the purpose for which it is intended. It is known that through the influence of these boards there has been a decided improvement and elevation of the standard of requirement by the medical colleges. Besides, all schools have improved their curiculum, and the standard or equipment of those fitted for medicine is higher than in earlier days. During the past ten or twelve years there have sprung up various sects and fads that have established themselves in a pretended treatment of disease, and who make no pretension of coming before either or any of these Boards of Examiners; in fact, refusing to do so, and even in every case where they are interrupted or challenged in their attempts to practice, or in violation of such law, fight in the courts all efforts to have them convicted or to compel them to either come before the Board of Examiners or to discontinue the practice.

The ability of these sects, in most cases, to gain their exemption from the requirements of the law is usually through some technical weakness or flaw in the statutes already framed. Hence the time and opportunity is ripe for earnest, well-executed plans or measures by which the practice act in every State will be made so perfect that any one endeavoring to establish him or herself in treatment of disease or of pathological conditions in any manner shall be compelled to appear before the legal Board of Examiners, or be prohibited from such practice. The law should be so framed or revised, in every State where any weak statutes now exist, that any person desiring to treat diseases must show by the most exhaustive method the fact of his proper qualification and fitness for the work,

This is a matter that should receive the earnest, thoughtful attention of every State legislature and legislator.

This condition, which is necessary for the protection of the people from imposition and danger, will eventually be brought about.

The plain duty upon those with this responsibility is to see that the benefit comes at the earliest moment. It is one of those conditions which is expensive and dangerous to many by its neglect or tardiness. The daily loss of life or suffering, in most cases by innocent individuals, as recorded by the lay press, is quite enormous and most vicious; wherein some of these fadists or pretenders have employed or used these illogical and unnatural means to effect an end—to cure disease. These deaths are undoubtedly murder or suicide, in a form, as the case may be.

Let the American Medical Association, each State and County Medical Society, appoint working committees whose duty it shall be to prepare bills for their respective State legislatures, and to exert an influence on legislative bodies, or with members individually, as the case may require.

CREMATORIUMS.

Not long ago it was quite necessary to dispose of the bodies by burning to prevent the spread of disease, particularly in foreign countries. In modern times, while the necessity is less urgent, it is deemed much safer for the living to have all sources of contagion removed soon after death. Although crematoriums have been built in many parts of the world, they have not been popular, and hence do not attract much attention. The one at Pere LeChaise, near Paris, seems to be in more active use than others, probably because of the crowded state of the cemetery and the economy in the disposition of the body. Several of these buildings are very imposing in structure, and have reduced the process of incineration to great perfection. Magnificent waiting rooms are provided for the mourners, who have only to wait a short time before the ashes are brought out in an urn and taken away. Probably one of the finest buildings of this class is located at Gotha, Germany. The final services take place in a marble palace. The bier disappears through a door in the floor covered with flowers and is carried off by a trolley to the cremation chamber. Here it is lowered in a furnace with a heat of nearly 2,000 degrees Fahrenheit, and is immedidately reduced to ashes, which falls through a grating on a chamber below and is taken out and given to the friends. In some instances the body is taken out of the coffin before placed on the table to be put in the furnace. In others, the coffin, flowers and all are melted together. In the Hamburg crematory a glass opening is provided by which the process of dissolution can be watched.

In all of these places, both in Europe and this country, there is no odor or anything which will shock the feelings; the surroundings increases the solemnity of the occasion. The destruction of the body is rapid, resembling very much the dissolution of snow under the influence of hot water. The tall chimney contains chambers for the resorption and reburning of the gases, so that the air in the neighborhood is in no way contaminated. There are four crematories in this country, but none of them seem to be very active. The price in most of them varies from $40 to $100. In Europe it is much lower. There is a great deal to be said in favor of this method of disposing of the dead, and perhaps in the future, with a more crowded population, this method will be popular. A number of well authenticated instances are on record of the transmission of disease from the drainage of cemeteries, showing that the danger from this source is very great, but can be effectually prevented by burning the body.

DR. J. W. LONG.

Dr. J. W. Long, of Salisbury, has moved to Greensboro, N. C., and in the future will be actively connected with the Greensboro Hospital, an institution which is now undergoing extensive improvements and when finished will be entirely remodeled and complete in all of its departments. This hospital is indeed fortunate, as well as the people of Greensboro, in securing the services of Dr. Long. He is skilled in his specialty, surgery. For many years he was Professor of the Principles of Surgery in the Medical College of Virginia. He has written a great many papers on interesting subjects in Surgery. His extensive experience entitles him to write and speak with authority. We predict for Dr. Long in his new field the success which comes to only a very few and the most skilled.

University of Louisville Medical Department—Session 1903-4.

The advertisement of this institution appears in another department of this Journal. This College deserves the patronage of our Southern young men, and a careful study of catalogue and this announcement should be of interest and value to anyone interested in medical teaching institutions.

Ransom on O'Hagan.

Magnificent Eulogy delivered in the Senate Chamber. He makes the Presentation to State Library for State Medical Society of Portrait of the late Dr. O'Hagan.

On the night of Oct. 21st, 1902, in the Senate Chamber at Raleigh, N. C., a portrait of the late Dr. Charles J. O'Hagan, of Greenville, was presented to the State Library by the Medical Society of the State of North Carolina through a committee of that body composed of Dr. L. J. Picot, of Littleton; Dr. W. H. Whitehead, of Rocky Mount, and Dr. G. W. Long, of Graham.

The portrait, which was a speaking likeness of the lamented physician, was painted by Mr. W. G. Randall, of Greensboro, and is an excellent portrait. No man outside of the doctors, except his former comrade and friend, General M. W. Ransom, was allowed to contribute to the purchase of the portrait. By invitation, General Ransom presented the portrait in a splendid eulogy of his friend.

It was a distinguished audience that greeted General Ransom. All the members of the Raleigh Medical Society, with visiting physicians and prominent citizens from Raleigh and other portions of the State. He entered with Drs. Knox, Picot, Whitehead and Long, and was received with warm applause. Every seat in the Chamber was occupied, and not even when the Senate is in session were the seats so filled with the Senators.

DR. PICOT'S INTRODUCTION.

Dr. L. J. Picot presided, and gracefully introduced General Ransom. Dr. Picot said: "As a representative of the committee having in charge the execution of the portrait of Dr. O'Hagan, I have the honor to introduce North Carolina's foremost citizen, greatest statesman, and greatest orator—the life-long friend and comrade-in-arms of our dead friend. He comes here to give a loving tribute to his memory, to pay his tribute of respect to North Carolina's foremost and most beloved physician."

General Ransom was received with applause. He looked every inch the grave and reverend Senator as he bowed his thanks for the warmth of the greeting. He spoke in part from notes and read a portion of his eulogy. He will write it out in full for future publication in the News and Observer and in the North Carolina Medical Journal. The following is an imperfect synopsis with copious extracts from the address:

GENERAL RANSOM'S EULOGY.

"I have been requested by the Medical Society, representing the physicians and surgeons of North Carolina, to present this portrait of Dr. Charles James O'Hagan, to be placed in the State Library among the likenesses of our eminent men who are there commemorated in association with the monuments of science and letters. No more fitting selection for a niche in that high temple could have been made. No profession among men is more distinguished for dignity, worth, intelligence, virtue, and doing good than that of medicine and surgery, and this great profession could not have chosen a more beloved and honored face to represent its history, character and excellence on the hallowed walls of the State Library. In all the qualities, faculties and actions which constitute great and good men; in intellectual power and attainment; in strong moral endowment; in benevolence and charity; in courage, firmness and true manhood; in gentleness, tenderness and sympathy for suffering; in tenaceous and unyielding performance of duty; in pure love of humanity and sublime devotion to his country—in the combination and embodiment of these elements of a man, Dr. O'Hagan truly represented the character of the physician and patriot in its best sense. Mankind has always felt the highest admiration for its soldiers. In that exalted sentiment they have often failed to render just and proper homage to their equally great benefactors in science, art, statesmanship, philosophy and labor·

In all of these fields, both civic and military, Dr. O'Hagan was singularly eminent· He was a scholar of very large learning, a surgeon of rare skill, a practicing physician of the best order, a writer of vigor and grace, an attractive speaker at all times, a conversationalist of surpassing brilliancy —a man with profound knowledge of the principles and history of government. He was a soldier of extraordinary greatness. His influence was only limited by the sphere of his acquaintance. He was unique, very unique, but constant, uniform, invariable in his singular individuality. He loved the truth. His faith was in the truth. He followed its light to whatever heights it might lead. Simplicity was the rule of his life—he abhorred ostentation, he despised affectation, he abominated pretense, he spurned cant, he hurled his thunder bolts and crushed a pretender wherever found. Rectitude was natural to him—he moved on its lines, with the regularity of nature and the certainty of clock work. He was absolutely without malice—had no personal envy, jealousy or revenge. Pure and simple justice was almost his idolatry—he admired, loved, practiced it. On that altar he was always ready to sacrifice. He had his prejudices and passions—strong and vehement like his whole nature, but his sense of justice rose superior to his impulses and controlled and regulated his life. In the height of his just indignation against an offender, when informed or reminded of some good act of the object of his denunciation, he would instantly retract and express kindness for the victim. He wronged no human being. He was always trying to lift up and help the unfortunate, the down-trodden, the afflicted. He was always a sincere friend and helper of the poor. Admiring, loving, aspiring to excellence himself, he was the soul of charity to others—he recognized the infirmities of our nature and did all he could to allevite and correct them. He did not condemn the faults and weaknesses common to all humanity, but upon a low, mean, sordid action; upon an unworthy man, guilty of cruelty and oppression, he poured the whole lightning of his wrath. Against an habitually mean man he was implacable. But his admiration for high conduct, for noble purpose, for sublime virtue, for exalted ability, was boundless—it was without limitation. He was the truest and best of friends—his friendship was almost holy. He formed his friendships upon deliberation, not from impulse and excitement—they were founded upon his judgment and experience, and they were the chief delight of his life. I cannot trust myself to speak of our friendship. I must not lift the veil from its sacred purity. Dr. O'Hagan was ever the light and delight of the social circle. I see him now when under the influence and inspiration of friends who were dear to him. His genius shone forth in all its beauty and grace, his wit, his learning all at play. History, poetry, the great writers and speakers—Shakespeare, Milton, Byron, the Roman and Greek classics, the French writers, especially the masters of his native country —Burke, Sheridan—the memories of his old friends here, Donald, Gilliam, Warren, Satterwhite, Rodman, Blow, all brought before you as he appeared without a shade on his brow, the impersonation of friendship, hospitality and intellectual accomplishment. He was a man of labor, of work —the highest praise to be given to an American citizen. Work was his greatest pleasure. He was never so happy as when going on and performing a duty of laborious work. He loved to work—he believed in a working man—a lazy man was his detestation, next and nearest to a false man. He regarded work as the first duty, the highest honor and the greatest happiness of man. He thought work his salvation against the temptations and seductions of earth. He esteemed it the great distinction between civilized and savage life. His proud reason realized and his great soul melted with thankfulness that the wisdom and mercy of the Almighty had converted his first curse upon man into a supreme and universal blessing. "Thou shalt eat bread in the sweat of thy face," is the one law of human government and happiness.

In his domestic life nothing could exceed his affections, his interest, and his whole duty to his family. Provident of their every want, attentive to their welfare, anxious for their happiness, day and night he worked and struggled and provided for their happiness. In their prosperity he greatly rejoiced. In their adversity he was a constant support. Nothing could for one moment divert his great heart from its duty. He stood by his domestic altars like the Roman sentinel in the temple at Pompeii, regardless of the volcano's deluge.

I must say a word of Dr. O'Hagan in our army. He was first appointed Assistant Surgeon of the First North Carolina Cavalry—justly the most celebrated cavalry regiment in either army—and served there nearly a year and with great satisfaction to officers and men. Upon the reorganization of the army in 1862 he was made Chief Surgeon of the Thirty-Fifth North Carolina regiment, and remained with it to the end at Appomattox. In an army most justly famed for its devotion to duty, in a corps whose fidelity became a proverb, Dr. O'-

Hagan was first among the foremost. I had almost said that he was a phenomenon of duty. From the beginning he studied his duty sedulously—the whole of it. In camp, on the march, on the field, he was never wanting for a moment. In the hospital he was a ministering angel. His medicine and his remedies were husbanded with the greatest care. In this sad scarcity he hunted everywhere for substitutes—he taught and disciplined his assistants and subordinates with the greatest care. He watched the health and condition of every soldier, he studied their temper and disposition—he kept their duty before them—he encouraged and supported them; he held them steady and constant. Day and night he never left them, but was at his post with good words and better deeds. His rebuke to the laggard was terrific, his denunciation of the skulker was awful, his praise for the brave and dutiful were almost a divine inspiration. His invincible fidelity, like the rising sun, was always before their eyes, and he became an influence, a power, in the army, which was felt by every man in the regiment. To the sick he was tender as a woman, to the wounded his touch was almost angelic, he never tired of serving the brave boys. After the longest march, after the hardest battles, in the dead hour of night, he went with all promptness and cheerfulness to the suffering. All his sympathies were with the brave men, he responded to their every call—when they were wounded he hurried to the field to their relief—he was at the cars to see them well taken care of on their way to the hospitals, and when they too often breathed their last, as he looked upon the pale stiff bodies, his bright eyes darkened with sorrow and his tender heart went out in sympathy to their homes. No wonder he was loved, honored, respected. Not a soldier of the old brigade who did not know of his goodness. Not a living one of them who did not sorrow when he died. He was known throughout the army, for no man was ever more devoted to the South. No man was more faithful to its fate, and no man behaved with more propriety and patriotism when its banners were furled and its swords sheathed. As he had been faithful and constant to the South, so when the Union was restored he stood faithful to its flag.

He was an assiduous, constant reader. He had read much. It was difficult to mention a book with which he was not familiar. His education had been thorough—its foundation laid in the best schools in Europe and completed in the best colleges in America. He loved the study of the sciences. His mind was deeply engaged in its discoveries and its progress. He was informed on all the improved theories and he looked with the liveliest interest on all of its relations to medicine. He could have filled any chair in our universities with ability and credit.

As a doctor of medicine and a surgeon, I shall only say that all men with whom he was thrown were satisfied of his ability, his learning and his practical proficiency and efficiency in his profession. The best and highest proof—demonstrative of his excellence as a doctor and surgeon and as a man—is presented by the united action of the doctors and surgeons in presenting his likeness to be preserved and commemorated in the State Library among the grandest sons of the State and amid the imperishable works of the human mind. His life, existence, very soul, was in his profession. The history of the profession was without a cloud. It had always been honorable—always in esteem. Its duties were of the very highest character. Its attainments placed it in the first ranks of science and thought. Its very word was sacred. Hope ever held its torch upon its pathway. Beneficence brightened all its steps. The most priceless jewels of society and life were in its keeping, and preserved with vestal sanctity, and it stood amid all the sufferings, perils and sorrows of humanity, a bulwark, without intermission. How beautiful, how good its inviolable delicacy to woman; how admirable and lovely its gentleness to age. What a noble comfort to society and family. How worthy the confidence and admiration of men. Upon this blessed profession Dr. O'Hagan bestowed the wealth of his affections and labors, and yet how reserved and modest he was. His desire and purpose were to be a great, good doctor, and a great, good doctor he was, but he never asserted his superiority. His modesty was a laurel that shaded but did not obscure his excellence. In a celebrated controversy in the army, with surgeons of very high rank, he proved clearly that his practices were right, and his professional skill was vindicated, but no cry of triumph passed his proud lips. He was for above all paltry jealousies.

Truth was his weapon of assault. Honor his only armor of defense- Justice the law of his life. Rectitude the standard of his conduct. Honesty the only policy he pursued. Charity his daily habit. Love of country and humanity the sentiments of his heart, and duty to all men, duty always and everywhere, the star that guided his ship through life to a haven, I pray, of eternal peace.

He was a modest man—far, very far, from presumption. He was not ambitious of fame. He thought mostly of these near him—his home, his neighbors, his friends. He greatly desired their approbation, but he desired it founded upon their esteem and his merits. I wish he had had more ambition—it would have enlarged the field of his influence and increased the sphere of his usefulness.

He was candid. Candor was, perhaps, the most distinctive feature of his nature. He had no secrets, no mysteries, no veils, no curtains. He was clear and open as the day. He had his heart open to all. He would not have practiced a counterfeit for the solid world.

Let us look for a moment at this painting which the rarely gifted and eminent artist of North Carolina has achieved. Noble, natural likeness. It looks, it speaks from the canvass. It is, indeed, himself. The great artist has almost by inspiration caught his expression and transmitted it to posterity. On that face you behold the lion, king of the forest; the eagle, king of the air; and the tender dove with broods of love. You can find no trace of the fox, no trail of the serpent, no cameleon color in or on those lines. Truth, courage, honor, charity, love, shining all over it. No shadow upon the soldier, the hero, the man; but honesty like the sun; friendship unchangeable as the stars; fidelity clear as the light; intelligence without a cloud. Thus he is, standing as in life, in the majesty of his virtues, fearless, erect and true in all things. Let him be put beside the patriots, the benefactors, the glorious names in North Carolina."

In behalf of the State, the portrait was accepted by Dr. B. F. Dixon, State Auditor, in a brief, beautiful and eloquent speech.

Book Notices.

A Text-Book of Minor Surgery, including Bandaging. By Newman T. B. Nobles, M. D., Professor of Surgery at the Cleveland Homeopathic Medical College, Attending Surgeon to the Cleveland City Hospital, the Cleveland Homeopathic Hospital, the East End Hospital, and Children's Hospital. 325 pages. Cloth, $2.50; postage, 15 cents. Boericke & Tafel, Philadelphia. 1903.

This volume is a credit to the homeopathic profession. As a text-book on this subject it is fully equal to any old school work, and it has the added merit of giving homeopathic therapeutics where such may be of service. The author has shown a fine appreciation of what is valuable to the practitioner, and not a page is wasted in unnecessary detail. Some of us who occasionally encounter them may not regard tracheotomies and brain injuries as belonging to minor surgery, but all will welcome the writer's helpful suggestions under whatever heading he chooses to make them.

Brewer's Surgery. A text-book of Surgery for Students and Practitioners, by George E. Brewer, A. M., M. D., Lecturer on Clinical Surgery at the College of Physicians and Surgeons (Medical Department of Columbia University), New York. In one octavo volume of 712 pages, with 280 engravings and 7 plates in colors and monochrome. Cloth, $4.00; Leather, $5.00, net. Lea Brothers & Co., Philadelphia and New York, 1903.

The need of a comprehensive, yet abridged, text-book on Surgery, suitable for the use of students and practitioners, and presenting clearly the accepted modern views of surgical pathology and treatment, has been felt by the author of this work during his experience in teaching. That such a need has existed in the past is evidenced by the fact that excellent manuals have appeared from time to time. That it is not adequately filled at present is perhaps due to the fact that the best of these manuals have, by their success, passed into new editions, in each of which the tendency to enlarge has not been sufficiently resisted, and consequently they have grown into large treatises, thereby outgrowing the demand which originally called them into being.

Following these ideas, the author has endeavored in the present work to give the essential facts in practical surgery as briefly as is compatible with clearness. The same reason has excluded the desciiption of more than one or two methods of treating a given surgical affection. It is often a difficult task to select from the many procedures which have been proposed that which is most applicable and successful, but such selection is a great aid to the reader. Space has also been gained by the avoidance of quotation of authorities, except where advanced ideas are mentioned which have not yet received general recognition.

Archinard's Bacteriology. A Manual for Students and Physicians. By P. E. Archinard, M. D., of Tulane University Medical Department, New Orleans. In one 12mo volume of 210 pages, with 74 illustrations. Cloth $1.00 net. Lea Brothers & Co., Publishers, Philadelphia and New York, 1902.

Dr. Archinard has furnished a compact volume, admirably arranged for teaching purposes, free from discursive matter, and giving the essentials of his subject as accepted at the present day. While intended for and especially adapted to the needs of medical and dental students, the practitioner may well use the little book to post himself on the most recent knowledge in Bacteriology and Microscopy, and upon questions of modern technique.

The value of an epitome lies in its concise and clear presentation of essentials, thus forming a solid foundation upon which may be built a sound superstructure of practical knowledge. Judged from this point of view, Dr. Archinard's work is entitled to consideration as a model.

This Series of Medical Epitomes should not be confounded with the ordinary Question Compend, made up in question and answer form, for the matter is given connectedly, thus facilitating reading and study, and the questions for convenience in quizzing are appended to each chapter. Helpful illustrations are used where necessary throughout the book.

Plain Hints for Busy Mothers. By Mariana Wheeler, Superintendent of the Babies' Hospital, New York, since 1891, and author of "The Baby." With illustrations in outline. Substantially bound in Flexible Leatherette, 35 cents. E. B. Treat & Co., Publishers, 241-243 West 23d Street, New York.

This little hand-book, as its name implies, is intended as an aid to mothers whose means are limited and who must care for their own babies, at the same time attending to their housework. It is written in such a plain and simple manner that no one could fail to understand its directions. It is full of common sense advice as to general health, clothing, food, bathing, fresh air, etc. Its pages on "Dont's" are specially practical and helpful.

A Thesaurus of Medical Words and Phrases. By Wilfred M. Barton, M. D., Assistant to Professor of Materia Medica and Therapeutics, and Lecturer on Pharmacy, Georgetown University, Washington, D. C.; and Walter A. Wells, M. D., Demonstrator of Laryngology and Rhinology, Georgetown University, Washington, D. C. Handsome octavo of 534 pages. Philadelphia, New York, London: W. B. Saunders & Co., 1903. Flexible Leather, $2.50 net; with thumb index, $3.00 net.

This work is the only Medical Thesaurus ever published. It performs for medical literature the same services which Roget's work has done for literature in general; that is, instead of, as an ordinary dictionary does, supplying the meaning to given words, it reverses the process, and when the meaning or idea is in the mind it endeavors to supply the fitting term or phrase to express that idea. To obviate constant reference to a lexicon to discover the meaning of terms, brief definitions have been given before each word. As a dictionary is of service to those who need assistance in interpreting the expressed thought of others, the Thesaurus is intended to assist those who have to write or speak to give proper expression to their own thoughts. In order to enhance the practical application of the book, cross references from one caption to another have been introduced, and terms inserted under more than one caption when the nature of the term permitted. In the matter of synonyms of technical words the authors have performed for medical science a service never before attempted. Writers and speakers desiring to avoid unpleasant repetition of words will find this feature of the work of invaluable service. Indeed, this Thesaurus of medical terms and phrases will be found of inestimable value to all persons who are called upon to state or explain any subject in the technical language of medicine.

The Pathology and Differential Diagnosis of Infectious Diseases in Animals. By Veranus Alva Moore, B. S., M. D., Professor of Comparative Pathology, Bacteriology and Meat Inspection, New York State Veterinary College, Cornell University, Ithaca, N. Y., with an introduction by Daniel Elmer Salmon, D. V. M., Chief of the Bureau of Animal Industry, United States Department of Agriculture. Illustrated. Ithaca, N. Y., Taylor & Carpenter. 1902.

This is a book of 380 pages, substantially bound, profusely illustrated, and printed on beautiful white enamel paper. The profession will greatly welcome this book, which presents the subject with which it deals right up to the present time. The book deals with the important infectious diseases of animals which occur all over the country. The author has rendered an invaluable service in bringing together in book form an interesting and accurate account of this subject. The work is full of valuable information concerning comparative medicine. The descriptions which are given of the diseases of animals are classic, and the pathology is worked out with scientific accuracy. Students and practitioners of veterinary medicine, and physicians as well, will find in this work an abundance of accurate, clearly stated, up-to-date, scientific information in regard to all infectious diseases. The illustrations are beautiful. Any one interested in this line of study will be greatly pleased with this book.

Transactions of the Southern Surgical and Gynecological Association. Vol. No. XV. Fifteenth Session, held at Cincinnati, O., November 11, 12 and 13th, 1902. Edited by W. D. Haggard, M. D. Published by the Association. 1903.

This volume of transactions is larger than usual. The papers, proceedings and miscellaneous matter that it contains make a large book of 444 pages. Mechanically the work is complete. Scientifically it is possibly superior to any of its predecessors, and will compare favorably with the transactions of any organization of this kind now in existence. Dr. Bovee, of Washington, D. C., is president, and Dr. W. D. Haggard, of Nashville, Tenn., is secretary.

The Practical Medicine Series of Year Books, comprising ten volumes on the year's progress in Medicine and Surgery. Issued monthly under the general editorial charge of Gustavus P. Head, M. D., Professor of Laryngology and Rhinology, Chicago Post Graduate Medical School. Vol. VII Pediatrics, edited by Isaac A. Abt, M. D., Assistant Professor of Medicine Rush Medical College, Chicago. Orthopedic Surgery, edited by John Ridlon, A. M., M. D., Professor of Orthopedic Surgery, Northwestern University Medical School. June, 1903. Chicago. The Year Book Publishers, 40 Dearborn St. Price $1.25 per copy.

This volume is of unusual interest, and is possibly superior to any of its predecessors. However, the size is about the same, containing 232 pages, very thoroughly indexed and containing a great many beautiful illustrations. A glance over this volume will suffice to show the reader the wisdom of such a publication and the necessity of possessing such a volume in order to keep up with the progress of scientific medicine. For the size of the volume, it is astonishing how much valuable information it contains. It is not simply a mass of abstracts of papers which have appeared in magazines. I take pleasure in recommending this volume.

Transactions of the Medical Society of Wisconsin, for the year 1902.

This volume contains 474 pages. Its arrangement and style are very much like the preceding volumes published by this society. It is the last annual volume that this society proposes to publish. Hereafter the Wisconsin Medical Journal will publish the transactions and will be the Society's official organ. A great many medical societies now seem to favor this notion instead of getting out an annual volume of transactions, which in many ways seem to be useless when compared to the enormous expense attached to it. It may be a good plan, and it may not, to have the transactions of a medical organization scattered through a magazine not owned or controlled by the Association. It is an uncertain method of keeping intact the proceedings of a medical society, and I doubt very much whether it is practical for any Association, unless it is a very large one, to try to own its own journal.

Dwight's Epitome of Medical Jurisprudence. A Manual for Students and Practitioners. By E. W. Dwight, M. D., Instructor in Legal Medicine, Harvard University. In one 12mo volume of 249 pages. Cloth $1.00, net. Lea's Series of Medical Epitomes. Lea Brothers & Co., Publishers, Philadelphia and New York. 1903.

To arrange such a subject as Medical Jurisprudence so as to present its real essentials clearly, yet in small compass, is a difficult thing, but the labor and care of the author mean corresponding facility for the student or reader.

Dr. Dwight has taught Legal Medicine to the medical students of Harvard University for several years. He knows exactly the needs of the student and practitioner, and this book is the outcome of his knowledge and experience. The expression "*Multum in Parvo*" has been worn threadbare by its frequent application to books, but never has a volume better merited this trite but meaty description than the one now under consideration. The practitioner or student who thoroughly knows the contents of this little book will be well equipped for almost any of the medico-legal emergencies which may and do come to every practicing physician.

Gynecology. A Text-book for Students and Practitioners. By William R. Pryor, M. D., Professor of Gynecology in the New York Polyclinic Medical School. New York and London: D. Appleton & Co.

The author of this book has written a practical text-book on the diseases of women, describing these ailments and their methods of treatment fully and completely. The first part of the work consists of a description of female diseases, and the second of the operative procedures demanded in their treatment. The work is admirably illustrated by a large number of artistic drawings, and the letter-press has been done in a style representative of the publishers. The book is well written, and will find favor as a text-book during the forthcoming student season.

International Clinics. A Quarterly of Illustrated Clinical Lectures and Especially Prepared Articles on Medicine, Neurology, Surgery, Therapeutics, Obstetrics, Pediatrics, Pathology, Dermatology, Diseases of the Eye, Ear, Nose and Throat, and other Topics of Interest to Students and Practitioners, by leading Members of the Medical Profession throughout the World. Edited by Henry W. Cattell, A. M., M. D., Philadelphia, U. S. A., with the Collaboration of John B. Murphy, M. D., Chicago; Alexander D. Blackader, M. D., Montreal; H. C. Wood, M. D., Philadelphia; T. M. Rotch M. D., Boston; E. Landolt, M. D. Paris; Thos. G. Morton, M. D., Philadelphia; James J. Walsh, M. D., New York; J. W. Ballantyne, M. D., Edinburgh; and John Harold, M. D., London; with Regular Correspondents in Montreal, London, Paris, Leipsic and Vienna. Cloth, $2.00. Volume II, 13th Series. Philadelphia and London: J. B. Lippincott Company.

These Clinics continue to be as formerly the same excellent means of familiarizing their readers with recent medical progress in all departments. International Clinics stand alone in outliving other periodicals of the same character. The hearty support given by the profession to the enterprise for so many years is an eloquent testimony to their true worth. The present volume contains the usual quantity of excellent material.

Surgical Diseases of the Abdomen. By Richard Douglas, Professor of Gynecology and Abdominal Surgery, Medical Department of Vanderbilt University. Published by P. Blakiston's Son & Co., Philadelphia.

This is a work of almost 900 pages, with appropriate illustrations. The extensive experience of the author has given him the right to speak with authority on the various surgical affections of the abdomen. A prominent and valuable feature of the work is the space devoted to diagnosis. The book is not so much a treatise on operative technic as a study of the etiology and symptomatology of the various affections considered; the indications for or against operation; and the after care of operative cases. The work is up-to-date in one of the most extensive, advanced, and important fields of surgery. The discussion has had to do with various surgical affections of all the abdominal organs, and as such it comprises a valuable addition to surgical literature. There is no work on this special branch of surgery ever been published that is equal to this.

The Practical Medicine Series of Year Books. Comprising Ten Volumes on the Year's Progress in Medicine and Surgery. Issued monthly under the general editorial charge of Gustavus P. Head, M. D. Vol. VI. General Medicine. Edited by Frank Billings, M. S., M. D., Head of the Medical Department and Dean of the Faculty of Rush Medical College, Chicago; and J. H. Salisbury, M. D., Professor of Medicine, Chicago Clinical School. May, 1903. Price $1.50; of series, $7.50. Chicago. The Year Book Publishers, 40 Dearborn Street.

The 316 pages of this volume comprise a vast amount of useful information on the year's progress in internal medicine, carefully sifted and impartially edited. The sections on typhoid fever and similar topics are especially timely.

Diseases of the Anus, Rectum, and Sigmoid Flexure. By Joseph M. Mathews, M. D., President American Medical Association, 1898; Professor of Surgery and Clinical Lecturer on Diseases of Rectum in Hospital College of Medicine, Louisville, Ky. Published by D. Appleton & Co., New York.

This work needs no introduction to the profession. Attention only need be called to the fact that the third edition has appeared. In this edition the chapter on cancer has been entirely rewritten to correspond to the latest discoveries. A number of new operations devised by the author are fully set forth and their merits discussed; and considerable discussion is given to the valves of the rectum. The work is brought to a position thoroughly abreast of the times, in an important but too often neglected field of practical medicine. The extensive experience of the author in this special line of work, together with previous contributions from him, makes this treatise a standard work. The book contains about 600 pages and is substantially bound.

Webster's International Dictionary.

The new edition of this Standard Dictionary has added over 25,000 new words and phrases to the English language. It is the largest and most accurate book of the kind ever printed. It is also interesting to note the conditions that call for new words; for instance, the African war, Rider Haggard's works, etc., have made a demand for definitions of many words borrowed from the Dutch, such as trek, veld, uitlander, etc. Our own Philippine and Cuban campaigns have also created a demand for definitions. We wish to know the meaning of such words as reconcentrado, trocha, etc. Even our newest craze, that of golf, demands the explanation of new terms, and so on to the end of the chapter. All this is supplied by this new edition of the International. In it you will never look in vain for a word.

Transactions of the Tennessee State Medical Association, 1903.

Through the courtesy of Dr. D. J. Roberts, of Nashville, we have received for the first time a copy of the Transactions of the Medical Society of that State. Judging from this large book of about 350 pages, the most of which is devoted to scientific papers and discussions, the medical profession in Tennessee is not sagging in its interest in anything pertaining to medicine or surgery.

Literary Notices.

The Review of Reviews opens a new volume with a number that exhibits very clearly the international scope of the magazine. The shocking end of the Obrenovitch dynasty in Servia is the occasion of some interesting editorial comment on the politics of southeastern Europe; the British tariff debate centering about Mr. Chamberlain's proposals, especially in its bearings on Canadian trade relations, also claims editorial attention; Mr. W. T. Stead makes a scathing exposure of the plunderings and atrocities perpetrated in the Congo Free State for the profit and aggrandizement of Leopold, King of the Belgians, and his arraignment of that monarch is athenticated by the personal observations of the Rev. W. M. Morrison, an American missionary in the Congo country; a wholly different kind of exploitation is described by Joseph M. Rogers under the title, "The American Invasion of Uganda,"—an account of Yankee bridge-building in the heart of the Dark Continent; this year's remarkable migration of European peoples to the new world is the subject of a well-informed article by Samuel M. Moffett, and the recent work of the English, Scotch, German and Swedish Antartic expeditions is effectively summarized by Cyrus C. Adams. Among the distictively American topics discussed in the same number are "The Erie Canal—Its Past and Future," by M. M. Wilner; "Forest Fires in the United States," by H. M. Suter; "The Recent Floods of the Middle West," by Charles M. Harger; and "'Welfare Work' in a Great Industrial Plant," by John R. Commons. These subjects are all timely, and their treatment by the Review of Reviews writers is fresh and suggestive.

The September Lippincott's Magazine.—Burton Egbert Stevenson's new romantic novel, called "The Blade That Won," is published complete in the September number of Lippincott's Magazine. It is replete with adventure and alive with tenderness. The assistance given a gentle maid in defending important papers introduces the hero to his love and the reader to them both without tiresome prelude. The tale is told with refreshing simplicity and directness and offers no temptation to take a nap between chapters.

Among contributors of short stories appears the name of Mary Moss, whose novels, "Fruit Out of Season" and "Julian Meldohla," proved so popular. Her story is called "Miss Atherton's Wanderjahr" and treats of an unconventional incident in the life of a conventional New York society girl. It ends as such things do sometimes.

'How Miss Turkington Did Not See Queen Victoria,' an amusing tale of two Irish ladies, by Seumas MacManus, calls forth sympathy from all who have seen their dearest wish about to "come true," when suddenly it has been snatched from sight.

Josephine Dixon's contribution, "The Bribing of the Senator," shows keen insight and is a happy instance of a halt in the strenuous life at Washington. Like the first story in the Bible, there is an apple at the bottom of it.

"Three Letters and a Note," which were found in the escritoire of an engaged girl, make a tale worth the telling by Albertine Crandall.

C. Yarnall Abbott, an artist, shows his versatility in the story entitled "The Mendacity of Mr. Riggs," which is about a humorously inclined burglar and a pompous bank cashier.

The September Cosmopolitan.—Sir Thomas Lipton, in an article in the September Cosmopolitan on "My Efforts to Win the 'America's' Cup," draws attention to the personal danger attending the sailing of the modern racing-yacht. In addition to being a menace, these racing-machines, he declares, are practically useless. When the races are ended, they are worth only as much as the metal within them will bring. Other timely articles in the same number of the Cosmopolitan are "A Study of the Servian Tragedy," by Elbert Hubbard, and an account of the Papal Conclave, by Frederick Z. Rooker, Bishop of Jaro. Rafford Pyke contributes a delightful essay on "Summer Types of Men and Women;" John M. Carrére, writes on architecture as a profession; "The Education of a Débutante" is by Emma B. Kaufman; "How to Win a Woman," by

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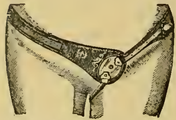

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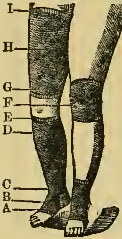

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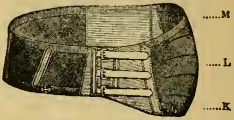

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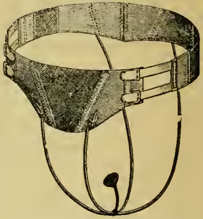

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"ROBINSON'S LIME JUICE AND PEPSIN" is an excellent remedy in the gastric derangements particularly prevalent at this season. It is superior as a digestive agent to many other similar goods. (See page vi., this issue). See remarks on their Arom. Fluid Pepsin also.

Bromipin in Epilepsy.

Speaking of substitutes for the alkali bromides, Dr. Spratling, medical superintendent of the Craig Colony for epileptics, says that the use of organic bromine in chemical combination with sesame oil, in the form of bromipin, from which an emulsion may be made that is well borne by the digestive organs, is especially valuable in mild cases of epilepsy in which there is lack of stamina, in feeble and asthenic patients; for bromipin is a reconstructor at the same time. As a good formula, he recommends the following:

Bromipin	4 oz.
Syrup	4 oz.
Spt. Peppermint..........	4 dr.
Mucilage Acacia, to make.......	16 oz.

The dose is from 1 to 3 tablespoonfuls an hour after each meal. This mixture, according to Dr. S., does not upset the gastro-intestinal canal, cause the bromo acne, nor produce the mental stupor common to the bromine salts.—Ther. Gazette, xxvii, No. 6.

Lavinia Hart; and the "Art of Entertaining," by Mrs. Wilson Woodrow. In addition to four complete stories and "Barlasch of the Guard," by Henry Seton Merriman, the following articles appear: "A Chip of the Old Confederacy: Jubal A. Early," by Clara Morris; Joseph Folk, a character sketch by Frederic C. Howe; Lewis Nixon, Captain of Industry, by Cyrus Campbell Wells, and "Mankind in the Making," by H. G. Wells. The magazine contains over eighty beautiful illustrations.

The notable work done by E. J. Dillon in exposing the horrors which attended the reprisals of the allied forces in China is to be paralleled, it seems, by his efforts in behalf of the victims of the recent outrages in the Contemporary Review, entitled "The Reign of Terror in Macedonia," is reprinted in The Living Age for April 11.

Miscellaneous.

Dionin in Eye Disease.

Prof. L. Konigstein, of Vienna, after making a series of experiments on the normal eye and thereby satisfying himself of the harmlessness of dionin, used this remedy clinically. In parenchymatous keratitis he found that dionin applications made in the beginning of the disease often are of considerable benefit, almost aborting the affection; made later in the disease, they frequently are without any influence on the course of the morbid process. The following examples are cited:

Case I.—Entire upper margin of cornea resembles a vascular sheet 2 to 3 millimeters in breadth; remaining parts of cornea are studded with small, gray specks. As the disease progresses under usual treatment, dionin powder is put into conjunctival sac. After a week the vessels are almost completely gone, and the maculæ begin to clear.

Case II.—Patient had had a mesokeratitis of four months' duration, leaving the entire cornea with the exception of the margins cloudy; pupil adherent. In the left eye the disease is at its height; extreme sensitiveness, lachrymation, photophobia, swelling of the lids, and contracted pupil. At first dionin powder is applied, later a 10 per cent. solution of dionin and atropine in substance. Treatment continued eight weeks. No distinct change; no dilation of pupil.

Case III.—Ciliary injection, irregular opacity of the upper margin of the cornea, extending to the pupil. Atropine, warm lotions, and bathing with boric-acid solution ordered. Disease extends; iris changes color; eyeball very sensitive; occasionally violent headache and pain in the eye. Atropine-iodoform-cocaine ointment now rubbed in; warm lotions continued. Pains not relieved by pyramidon and aspirin. Opacity ulcerating; pupil not fully dilatable by atropine, vessels discernible on iris, which is softened and thickened; trace of hypopion. Patient put to bed in dark room and leeches applied. Opacity spreading; iris still soft and swollen. Leeches again applied, with but moderate relief; nights are bad. Now, alongside of present treatment, dionin in 5 per cent. solution is instilled several times daily. Nights improve; eye can soon be opened voluntarily; disease slowly recedes.

In corneal opacities benefit was obtained with dionin only in cases where such could be expected; where the opacity still partly consisted of inflammatory products. Here, clearing is hastened by dionin and massage with yellow ointment. In iritis, the pains almost always are completely relieved by dionin, and a shortening of the course of the disease seems possible. A case of hemorrhagic glaucoma was treated with instillations of 5 per cent. solution of dionin, combined with a ½ per cent. solution of pilocarpine, five or six times daily. In ten days there was complete absence of the paroxysmal pains, the corneal opacity had disappeared, the tension was improved though not yet normal, and the patient could return to his official duties.—Wien. Med. Presse, 1903, Nos. 10-11.

Painful Hypertrophy of the Prostate.

Editor Merck's Archives:

In my experience, dionin has proved almost a specific in the treatment of a painful hypertrophy of the prostate gland. It must be pushed to the limit of tolerance, just short of producing rash. It has also the effect of inhibiting excessive sexual excitement. During the continued use of it an occasional dose of sodium glycocholate should be administered. Dionin makes old age comfortable without the performance of prostatectomy, and will enable many to lay aside the catheter.

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is indicated as a prophylactic remedy against post-partum hemorrhages, uterine weakness, great development of the fetus and of the adnexa, and in those cases in which there is a disposition to hemorrhages.

Bromipin, according to Dr. Gareis, is an excellent substitute for the alkali bromides in epilepsy—it does not produce acne, is nutritious, and of great efficacy.—Munch. Med. Woch., xxii, No. 16.

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Some Improvements in the Method of Local Analgesia.

A clinical lecture with the above title, delivered at University College Hospital, London, July 11, 1903, by Arthur E. J. Barker, F. R. C. S., Eng., appears in The Lancet for July 25, 1903.

Several points must be borne in mind, among them the mechanical and physical difficulties in infiltrating all the nerves supplying an extensive field of operation. To inject the whole area so as to reach all its nerves would mean in many cases the use of much more of the toxic drug than is necessary, and in some cases so much as to be dangerous.

The author refers to certain observations by Braun, of Leipsic, on a method of overcoming the drawbacks incident to the usual mode of producing local anesthesia. This method is based upon the old experience that *anything which retards or diminishes the circulation of the blood in a part, enhances the potency of the analgesic agent.* Experiments were made with Arenalin, a very small quantity of which was injected with B-eucaine (or cocaine) into the author's own arm, and subsequently into the arms of numerous patients. After the lapse of twenty minutes the part was quite blanched and wholly insensitive to pain, remaining so for about two hours. Arenalin, alone used in this way had no analgesic effect, while the results of the use of the combined solutions of B-eucaine and Adrenalin were far superior to those produced by B-eucaine alone.

The most convenient way to prepare the solution is as follows: Powders each containing 0.2 gramme (3 grains) of B-eucaine and 0.8 gramme (12 grains) of pure sodium chloride are kept in thick glazed paper, ready for use. When needed one powder is dissolved in 100 Cc. (3½ fluid ounces) of boiling distilled water, and 1 Cc. of Parke, Davis & Co.'s Solution Adrenalin Chloride is added when the fluid is cool. The solution is left in the Jena glass beaker in which it has been boiled, which is carefully covered and placed in a vessel of warm water to keep it blood heat.

The injection is made by means of a simple syringe of glass and metal of 10 Cc. capacity, with rubber washers, which can be sterilized by boiling.

To illustrate his method the author describes in detail the performance of an operation for the radical cure of inguinal hernia. The hernia is first reduced and the index finger is thrust into the external ring as far as possible. Along this finger the needle is entered and the inguinal canal is filled with 10 Cc. of the solution. An endeavor is made to inject it all around the neck of the sac so as to reach the genital branch of the genito-crural nerves. The needle is then entered at the external end of the line of incision in the skin, and is made to infiltrate the *superficial* layers of the latter down to the root of the scrotum, making the resulting wheel at least an inch longer at each end than the incision is to be. Injections are then made at a point half an inch to the inner side of the anterior superior spine of the ilium, the needle being thrust towards the ilio-inguinal nerve, and at a point about one inch above the middle of Poupart's ligament the ilio-hypogastric nerve is most conveniently met. Then the thigh is flexed and another syringeful is injected along the ramus of the pubis and the root of the scrotum or labium.

It is necessary to wait twenty minutes after the last injection for the full effect of the Adrenalin to develop. The whole field of operation should be blanched and insensitive to pricks but not to touch—analgesia, not anesthesia. The incision may then be made with confidence that no pain will be felt. The absence of oozing of blood is noticed. Only large vessels bleed at all.

Success depends upon a mastery of the principles, and practice in the details of the method. It is not enough to inject the fluid under the skin generally. Due regard must be had to the position and course of the nerves supplying the structures to be dealt with. The Adrenalin compound, by slowing the circulation through the part prevents the anesthetic agent from being rapidly washed away. The writer has used this method in thirty operations including the radical cure of hernia, orchidectomy, removal of varicose veins, psoas abscess, loose body in knee, tumor of neck (actinomycosis), colotomy, Thiersch skin grafting and cystic adenoma of the threoid.

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Cough in Pulmonary Phthisis.

By J. Leffingwell Hatch, B. Sc., M. D., F. R. M. S., London.

As broods silence back of sound, so also stands designer back of design, and the logical mind of man has ever thus traced a presumptive relation between the thing observed and its supposed origin, and called them respectively cause and effect.

Thus in medicine we look from symptoms to a cause, and if post mortem we find a definite lesion we too often jump to the conclusion that it must be the very thing we are looking for, and are apt to forget that back of this change of structure lingers the first and real cause in perverted physiologic function.

One of the best known and oldest symptoms, and one which occurs from diverse causes, is cough, and this, with another, almost as common and well known, dyspnea, go hand in hand among the various affections of the respiratory organs.

In pulmonary phthisis cough is usually the first symptom manifested and lasts throughout the disease, but the cause is not the same in each stage, and consequently requires careful study and varying treatment in the different stages.

The earliest physiologic alteration is a hyperemia usually occurring at the apices. This congestion of the capillaries is the causal irritation that brings about the cough reflexly through the medium of the nervous system. Here a nerve depressant and vaso motor dilator is indicated rather than an analgesic and expectorant.

In the next stage of consolidation the hepatized tissue acts as a foreign body and likewise reflexly brings about a useless cough in the vain effort to get rid of itself. In this stage resolution should be established by means of an alterative and the nerves quieted by a sedative.

In the third stage where the tissue has undergone cheesy degeneration and broken down, it really is a foreign body that causes the cough, which can only be relieved by its removal, hence we give stimulating expectorants in combination with sedatives and analgesics to relieve the nervous spasms and consequent pain.

The sum total of the forces of a consumptive is at the most a low figure, and we try to keep this up by a high diet that often deranges other organs, whereas regard to the conservation of force by lessening the cough will give the same result without detriment to other emunctories.

To allay cough, then, has been the aim of therapeutists from time immemorial, and of the different concoctions and mixtures that have been vaunted and foisted upon long-suffering humanity their name is legion.

Probably the greatest boon that ever came to us in the form of medicine was opium, and some form or other of this drug has been and always will be used to a great extent as an ingredient in every cough mixture.

Of the Alkaloids of opium, morphia has probably been the most popular until recent years, when codein has claimed considerable attention and threatened to usurp its place; but since the discovery of heroin, by Prof. H. Dresser, of Elberfeld, Germany, in 1898, this has been made impossible, and the new analgesic after careful study both in Europe and America has found great favor among practitioners, especially in diseases of the respiratory organs.

In the fall of 1900 my attention was called to Glyco-Heroin (Smith), and I tried a sample bottle on a patient with such gratifying results that I determined to make further observations.

What these results were, the clinical record below tells more graphically than worded phrases of description could hope to do.

It does not nauseate, and can be given in teaspoonful doses as often as every two hours to adults, dose of course being graduated in children according to the age, although they tolerate heroin where opium would produce untoward results.

The greatest advantage this preparation has over all others lies in the fact that it does not contain anything that deranges the stomach, and can be given indefinitely without the patient turning against it.

The majority of cough-mixtures contain sugar, which is bound to undergo more or less fermentation; opium, which constipates and affects respiration, and belladonna, which checks the secretions, so that if they are able to lull the patient into oblivion of his condition for a few hours on account of the large amount of narcotic they contain, he awakes to find a stagnation of secretions with renewed paroxisms of coughing, and "pushing the mustard to fanaticism" for further relief he eventually becomes a slave to opium.

I have used Glyco-Heroin (Smith) now in over fifty cases, with the unvarying result that it relieved the cough, reduced the temperature, increased the volume of respiration, and allayed the night sweats, while at the same time it did not derange the stomach or cause constipation, did not produce vertigo nor nausea, never weakened the respirations, nor caused deleterious effects upon the heart, so that I can frankly say that without doubt we have in this compound the ideal cough mixtvre for the cough of phthisis pulmonalis.

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The ALIMENTARY CANAL should be kept in as nearly an aseptic condition as possible, and this may be accomplished by the JUDICIOUS administration of Zinc Sulpho Carbolate (the Merrell Company supply this remedy in the convenient form of 2, 3 and 5 grain tablets).

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San Francisco.

The cases that I here quote I have selected from a series of fifty-three, with the idea of not citing cases so near alike as to produce monotonous repetition, no matter how gratifying the results.

As has been well said of this preparation, it is not only a true pharmaceutical product but an ethical one as well, and one that the physician can use understandingly, as its composition and physiologic action are well known.

Unfortunately all good things are sooner or later imitated, and something put forward as just as good but cheaper, and Glyco-Heroin (Smith) is no exception to this rule. so if results are not satisfactory, substitution must be at the bottom of it.

Observation One.—Mrs. Marie B., aged 32, father living in good health, mother died several years ago, does not know cause of death.

She was thin, and her complexion was of a muddy, yellow color when first examined. Weight 122½ pounds; pulse 100; temperature 100 deg. F. Respirations 36 and difficult.

She had a fairly good appetite, but was constipated. She menstruates regularly, but has coughed and expectorated for two or three years. Sputum analyzed showed the presence of tubercle bacili. She had a pleurisy eight years ago the result of a cold, both lungs were affected since then, crepitant rales throughout, and areas of congestion here and there.

Her sputum had been tinged with blood, but she has never had any hemorrhages.

I gave her an emulsion of cod liver oil, and Glyco-Heroin (Smith) in teaspoonful doses every two hours. The cough was relieved from the first, and after four months had entirely disappeared, The lungs cleared up, no more rales or areas of congestion, and she gained ten pounds in weight.

Observation Two.—Miss E. M., aged 32, unmarried. Had been ill six months before coming to me for treatment, and a diagnosis of tubercular laryngitis had been already established by some one else.

There was dullness on percussion over nearly the entire area of both upper lobes of the lungs, she had night sweats, fever, and a persistent cough, raising considerable. She was pale and emaciated, highly excitable and nervous; pulse 110, temperature 102 deg. F., respiration 26.

Microscopic examination of the sputum revealed the presence of the tubercle bacilli.

On laryngoscopy I found an extensive ulcerative process on the posterior wall of the larynx just above the vocal cords, and both epiglottidian folds were congested and swollen.

Besides the local treatment for her throat trouble and constitutional care, I gave her Glyco-Heroin (Smith), one teaspoonful to be taken every two hours.

There was marked improvement after the first twenty-four hours, and she said she had slept well through the night, had coughed scarcely at all, freedom from which distressing symptom she had not enjoyed for months.

The temperature gradually went down to normal, the night sweats ceased, and in little over one month's time the cough had left her entirely. The ulcer in the larynx was finally healed, which relieved her hitherto painful deglutition; besides this she gained flesh and strength, due, undoubtedly, to the conservation of force which the mitigation of the cough afforded.

Observation Three.—Mrs. I. T., aged 35, had one sister who was tuberculous. She had been ill for over ten years when she came to me; previous to her bad feelings she had been operated on for prolapsis uteri; about five years ago first noticed that her abdomen was increasing in size. This proved to be due to a fibroid tumor which grew to such an extent that her abdomen measured thirty-seven inches in circumference. She had coughed for about six years, but her aspect was fairly good; she weighed 137 pounds, but was nervous aud impressionable; respirations were 20, pulse 83, temperature 101.1 deg. F.

Physical examination revealed numerous moist rales on the right side, and her sputum on microscopic examination showed the tubercle bacilli.

She was given Glyco-Heroin (Smith) in conjunction with constitutional treatment, and received local electrical treatment from the hands of a specialist. At the end of eight months her abdominal measurement was reduced to thirty-three inches, cough and expectoration had entirely disappeared, as well as the moist rales, and her temperature, pulse, and respiration became normal.

Whether her cough was entirely due to the lung trouble or was partially due to the uterine difficulty I was unable to determine, but granting both factors as a cause Glyco-Heroin (Smith) cured it.

Aletris Cordial Rio.

I have used Aletris Cordial Rio for menorrhagia and dysmenorrhea, and find it an invaluable remedy as a uterine tonic. The Aletris Cordial Rio has for a number of years been a great favorite with me in derangement of the female reproductive organs, therefore I recommend it as a tonic in uterine troubles, as it will give satisfaction to those afflicted with such diseases.

C. A. Goshen, M. D., Petaluma, Cal.

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Indigestion -- Metabonemia -- Mal-Assimilation and Mis-Elimination.

Wm. Wilder Taylor, M. D., of New York.

"The poet calls it 'Nature's sweet restorer,' and refers only to periodical suspension of consciousness (cell labor); the physiologist looks beyond this eternal sign to the systemic function which provides for the diurnal readjustment of life's forces in renewing cell efficiency. Upon assumption of labor (cell activity) elimination of the toxic waste and resumption of supply is received in preparation for the next period. This cyclic process in its efficiency constitutes health. If it gets out of adjustment —if the supply and the outgo are out of equivalents—if plus is in excess of minus and vice versa to make the equation unbalanced, a condition which is "morbid" exists and ill health or disease results. The organism is out of adjustment, and restoration means a readjustment of the basic function. This is the simplest view of disease; for whatever may be the cause, its point and mode of attack, it all amounts to this finally. Recently, this whole chemical process of tissue and cell-life has been popularly (and properly) termed 'metabolism.' Metabolism refers as well to income as well as to outcome—and may be divided into constructive and destructive. The former, to go farther, is anabolism and the latter katabolism. But with this we have naught to do, for the pictures we as clinicians have to complete as "artists of vitality"—to "varnish and hang in line" to the satisfaction of the owner—has naught to do with detail, except within our sanctum. It has occurred to me that if physicians had more logic and less science in their overloaded brains, the health average and human longevity would be considerably higher in civilized countries. As it is, in every case coming to a physician he feels it his duty to take the watch apart and find the particular speck of dust in situ and remove it, rather than to give a general puff and clear out all the dust."

* * * * *

The foregoing I have quoted from a recent conversazione medicale by a physician whose experience and profundity makes his preaching authoritative. My recent experience confirms the foregoing, especially in the treatment of local diseases by a correction of the metabolic processes. I am satisfied that nutrition and its post-factor assimilation is selective. Like the morbific agent it selects the weakest part, and when it does is a winning ally in local treatment. There has quite recently appeared, also, a remedy which is efficient or near a normal standard, and is derived from animal enzymes and vegetable ferments which have been apparently changed by fungoid action. To express it in another way, a new single product has been made from uniting several organic ferments by partial digestion. This remedy is now made and sold under the trade name of Bioplasm (Bower),* and it is the only one. There are others purporting to be "just as good," but they are not, and are substitutes to be wholly rejected. I am satisfied that this product contains a force which stimulates this basic function of the system—metabolism. It acts primarily in the small intestines by increasing its digestive powers, and through it reaches the circulation with a wonderful power of correcting assimilation. How? Either through the blood-making organs, or by its tonic influence on the cells and tissues direct. That is for the physiologist to determine. Physicians are satisfied to know its therapeutic power and uses in general without "taking the watch apart." The following cases are selected from my clinical notes to show its widely differing uses. I consider it truly specific in intestinal dyspepsia. In my own experience, at least, I have never had it fail.

Case 1.—Male, single, aged 47, a well-to-do merchant (silk importer) lived as independent New Yorkers frequently do—faster than their organs permit—"violating their systemic license." For 30 years he had smoked incessantly, and for nearly that time he had taken liquor daily, steadily, excessively; that is, short of intoxication, but with some exaltation or symptoms of toxicity. He was not a debauche. At the age of 35 his digestion, which "had been that of an ostrich," began to weaken, and he was obliged to restrict his diet, but not his drink! Twelve years later, when he applied to me, he was the worst wreck of a fine manly man I ever saw. His stomach tolerated nothing; he based his chances on strong egg-nog, but frequently lost——it. He said to me: "Doctor, I am not able to eat anything; I have no digestion at all." He was in constant pain through his abdomen; suffered from nervous depression on the borders of melancholia; insomnia, dyspnoea constant, and could only sleep in semi-reclining posture; feted diarrhœa; cystitis sub-acute; urine—indican in large ratio; sympathetic disturbances—such as vertigo, tachycardia, loss of volitional control, headache, etc.—all extreme; in short, he had the symptoms of a broken down old man who had indulged in life-long excesses. These were the symptoms when he commenced treatment Feb. 3, 1902. His weight

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*This article published in a current number of a medical journal, gives the chemical name "extractum enzymica compositus" to avoid the use of a trade name.

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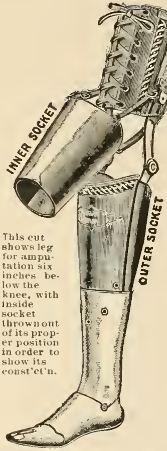

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had reduced from 216 to 181, and he was in a state bordering on collapse.

℞ Calomel, grs. 3, Resina Jalap, gr. 1, at night followed in the morning with aperient water producing a free cleansing of alimentary canal. Then I commenced Bioplasm in powder, (triturated with sugar of milk), 15 grs. dry on tongue four times daily. Stopped all alcohol (for the first time in 30 years) and restricted smoking. I insisted on quiet and freedom from excitement—that is, complete rest, allowing no business matters to reach him. His diet for 4 days was confined to meat juice in ½ oz. doses, every 3 hours. No restriction of pure water. For following three days gave him cereal milk in place of meat juice and increased Bioplasm to 20 grain doses, but as this produced some vertigo, showing it exceeded the physiological limit, I reduced it again to 15 grs. On the eighth day added cornmeal mush to the cereal milk, and on twelfth day give him an exclusive milk diet to Feb. 28th, which was the twenty-sixth day of treatment, after which he was dermitted to resume business and to take restricted mixed diet, but continuing the Bioplasm.

I next saw him on March 17th, when he walked into my office. I did not recognize him at first. I never saw a better instance of "regenerated man." It seems an insufficient penalty for a man to pay for so long a violation of Nature's laws, that he should be restored from a red, flabby, bloated, shaking, degenerate looking wretch, to the full, straight, active, clear-skinned, bright, business man, looking his age, perhaps, but no more. He had no further desire for alcohol, he said, and his tobacco consumption was much reduced. How was this accomplished? Not by giving this remedy to correct that defect and that to correct this; but by stimulating the whole function of metabolism, constructive and destructive, with the removal of causes and the simple adjuvant of non-irritating diet and rest. At his last visit the patient said to me: "What is that sweet powder you gave me? It is the most wonderful reviver I ever saw —took away all my desire for nipping." The "sweet powder," moreover, does not become a necessity, for he stopped it without a sense of loss.

Case 2.—Male, single, 28 years old, had suffered from gonorrhœal complications for 17 months, and during that time had been treated by a dozen or more specialists—advertising and orthodox—until he was relieved of his surplus funds, when he came to me. After a long and troublesome examination I recorded: The inflammation had invaded the complete environment of the uretha, passing up into the bladder, into the deeper structures surrounding it, and into the testicular tissues. There were lacunæ formed in the urethra, creating reservoirs of purulent infection; phlegmonous collections were removed as large as a navy bean; there was prostatitis with marked enlargement; there was an active cystitis; a chronic epidydimitis probably extending to the testicle had created a low orchitis, for the testicles were enlarged and hardened and felt like a league baseball. The erect attitude was painful, and walking was only possible by careful strapping. With it all was a spermatorrhœa (diagnosis microscop). A more complex and hopeless condition I never saw and never want to see again. The general symptoms were quite severe, showing toxicity from absorption, and a nervous state bordering on suicidal melancholia. His habits were all untoward, as such cases are apt to be. The assimilative functions had apparently suspended. Treatment: A mild catharsis followed by salines and for the basic treatment Bioplash (Bower) in powder, 15 grs. after each meal. Locally, I broke up the lacunæ by Lydston's sounds; gave prostate massage with daily use of sounds Nos. 12 to 18; kept canal and bladder clean and sterile as possible with antiseptic injections (Tyree's—teaspoonful to pint of water), always injecting after each micturition, and before and after operations. The effect of Bioplasm on the urine was wonderful, correcting it completely and removing the acid irritability. Created no general regimen. Patient had used cigarettes incessantly, but after several days under Bioplasm he decreased use as the desire lessened, and was finally able to give up smoking. To the testicle, applied an ointment of equal parts ichthyol and lanoline, wrapping in absorbent cotton covered with oiled silk and supporting it. The reduction of inflammatory symptoms did not require but ten days and the total period of treatment was 30 days, when this "bag of skin and bones" with his sexual apparatus in a state of decay and degradation, left my office a clean, well-fleshed man. He resumed work at once, and when I saw him a few days since he was vigorous, stout, ambitious, and looked at a rosy-hued future. Although he drank and smoked since maturity in excess, he has given up both habits. He states that a small dose of Bio. before breakfast takes the place of a cocktail without after effects, and he can even skip this dose without missing it. I am positive that no local or general treatment heretofore known would have cured this man without the specific effect of Bioplasm on metabolism, which brought nutrition, absorption and elimination both general and local to the highest efficiency.

Case 3.—Single woman, aged 36, always in good health, went to a church festival and ate freely of a cold concoction she supposed was chicken salad. Natural results followed and she was found unconscious, lying beside the bath tub, and could not be aroused. When I reached her a few moments later and learned her indiscretion, I assumed correctly that she was seriously poisoned with ptomaines. Evacuated stomach, and thoroughly emptied colon by high enemata, and gave her grs. 15 of Bioplasm every hour when awake. The next afternoon she came to my office, She said: "I didn't come for treatment or to show myself, but I want to know what that sweetish medicine is you gave me. It certainly has a wonderful effect." It is needles to say that no other remedy known has ever given a result like this in toxemia from ptomaines.

While writing the foregoing I had a call from a brother physician who confirmed the therapic explanation of the last case by an experience in his own family. On last Sunday evening his household of seven persons, including visitors, went to the kitchen for a "snack" before retiring. In the larder was some tempting cold meat (veal he thinks) of which all partook except himself, and he protested against its use (the day had been hot and humidity high). Soon after midnight there was chaos in the household from the six cold meat victims in the grasp of ptomaines. Being the only capable one in the house he was extremely busy. It was several hours before he thought of Bioplasm and having some on hand he commenced to administer it "in teaspoonful doses!" he said. The three members of his own family took it on command, but the others refused, as they had already taken the usual remedies. Those who took it were quietly asleep in

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Dr.______ Reports following case:

GASTRO-ENTERITIS, where there was constant vomiting. Child, twelve months old: gave one-half teaspoonful Glyco-Thymoline in hot water every hour until five doses were taken, also used Enema of Glyco-Thymoline, one tablespoonful in four ounces of water. This treatment gave prompt relief, and I believe saved the child's life.

Dr.______ Reports following case:

DYSENTERY: Patient, 16 months old, took to vomiting and running off at bowels six days before I was summoned. When I reached there, found the patient passing foul and bloody discharges, immediately put patient on Glyco-Thymoline and Liquid Bismuth, equal parts, teaspoonful every two hours; just after the second dose was given I could see a marked change. Patient improved fast, and in about three days had completely recovered.

Other similar cases treated with Glyco-Thymoline gave me equally good results.

SAMPLES ON APPLICATION

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less than an hour, while the others continued to suffer. At rising-time the former were free of all symptoms and their sufferings appeared to them like a dream, while the others were under the care of their respective physicians (one a homeopath), and did not recover for several days; in fact, are still suffering from the sequelæ.

I have prepared several case reports from the many in my clinical notes, but my space is already much overtaken. These are all cases of intestinal indigestion, many of them chronic and of long standing. As before stated, this remedy has proved specific in my hands, in this very common and insidious condition. An indication which I find invariably is the presence of indican in the urine, especially in chronic cases, where nervous symptoms are prominent. The use of Bioplasm for several days removes every trace of indican, showing that the indol in the intestines from which the indican is derived is thoroughly disposed of by metabolism.

It seems quite certain that we are entering upon an era of therapeutics where symptomatic evidence, showing defects in the constituents of cells and tissue will not be the basis for treatment (supplying the defective element—such as iron for pale blood; phosphorus for starved brain cells, etc.), but a broader, general and rational therapy will be directed at the great functions which are fundamental and precedent to such detailed pathology. Of such remedies Bioplasm is a pioneer, of which more will be known after a while resulting perhaps in other and improved products. Still it is hard to conceive from my observation how improvement is possible or desirable. The needs seems to be pretty well supplied now, and no form of administration could be easier or pleasanter. I should say, in conclusion, that I may have been exceptionally fortunate in my experience, as I have heard of negative results in the use of this product. But I fear that more or less disregard of necessary precaution in the care and use of a very sensitive and easily spoiled pharmaceutical would explain many of these instances.

Wm. Wilder Taylor, M. D.
No. 418 West 57th st., New York City.

Intestinal Dyspepsia.

This part of digestion is of as much importance as the work done by the stomach, and evidences that this part of the physiological processes of digestion is imperfect are as prominent and more unpleasant than when the trouble is solely in the stomach. The symptoms representing this condition are often more obscure and harder to recognize and are more often overlooked than many of us have believed. Even after they are recognized, it is difficult to estimate their relation to other diseases or disorders or perverted functions which may be going on in the body at the same time, or to determine just what plan of treatment will prove most successful. The digestion of the contents of the bowel is far more complicated than of the stomach. It completes the imperfect work done by the stomach. It is the refinery of the process of digestion, so to speak. The stomach only crudely prepares nutrients for assimilation, while the intestines prepare it to be taken up by the circulation. Its process is complex, and any deviation from its normal workings is likely to produce obscure symptoms and sometimes dangerous conditions. It is a complete chemical laboratory in a way.

While much progress has been made in ascertaining the physical changes which take place in the body, there is still lacking a knowledge of the intestinal digestion when it is divided into its several physiological processes.

When intestinal dyspepsia is not indicated by suggestive symptoms, which is frequently, perhaps usually, the case, it is overlooked. It seems, therefore, that a routine examination by physical methods would be rational and profitable in most intestinal diseases, especially when the cause is hard to recognize. This practice would very often throw more light on these obscure cases and make the per cent of cures greater, the plan of treatment more rational. Many organic diseases might be mistaken for intestinal disorders, therefore, care should always be taken in differentiating these two conditions especially on account of the treatment. Functional derangements often lead to organic changes and this transition is so subtle that serious error may be made in the treatment if the case is not carefully watched. In neuresthenic cases the underlying cause should be treated, it often occurs that nervous debility is enhanced by mal-assimination, that causes and effects become confused. When nervous diseases are central there are usually symptoms elsewhere to locate them.

In the management or treatment of these cases there is great advantage in the use of Bioplasm, certainly in the beginning of the treatment. Before its use it is well enough to lightly feed the patient for a few days, especially with the carbohydrates, certainly for forty-eight hours. In the mean time give mild aperients and encourage drinking. There is great advantage in this form of treatment. None of us drink enough of water. It is very seldom that you see a sickly, emasiated person who drinks an abundance of water. In this treatment cer-

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tainly not less than 60 ounces should be taken per day.

Bioplasm should be given in full doses for a week or ten days and the patient be kept on reduced diet. The liquid should be continued. With this remedy and this plan of treatment neurasthenic cases and cases with unmistakable symptoms of intestinal dyspepsia will improve. The pinched expressions about their faces will pass away. They will have a more elastic gait, be more cheerful, and be benefitted in every way. In tuberculosis Bioplasm is invaluable as an aid to assimulation. The per cent of cures in this disease would be double what they are if patients could eat, digest and assimulate large quantities of nutritious food.

Treatment of Eczema of the Scalp.

Parker pleads for more patience and perseverance in the treatment of this troublesome affection. So many physicians prescribe time or pronounce the condition hopeless that parents often discredit the physician who promises recovery within a reasonable time. The first measure in successful treatment is a thorough washing and shaving of the head. Castile soap and much water of a temperature not less than 100 deg. F. should be used. The same water should not touch the head twice, and pledgets of absorbent cotton are to be used to remove the crusts. When cleansed, the head should be dried with a clean, soft towel. During treatment the pillow case should be consigned to the wash tub each morning, and a clean one put into its place. These are not over-particular but imperative details, if favoravle results are desired. Jugglery in prescriptions cannot avail, and rigid hygienic measures, extending to all the surroundings, must accompany medical treatment. The second step is in the case of nursing infants to treat the morbid constitutional condition, generally found in the mother. The alterative, iodia, is nearly always applicable, and in severe cases should be administered to both mother and child. If the irritability attending the eruption requires special treatment, bromidia should be given. Some children will require an easily assimilated iron tonic. The bowels must be kept open with a mild aperient given in the early morning. Locally boroglyceride is the best ointment. Ecthol is also a remedy of much value, being a powerful corrector of depraved conditions in fluids and tissues. It is employed diluted, according to the severity of the case, and sprinkled upon a thin cap of surgeons' cotton. The cap should be renewed, and the old one burned, daily.—Medical News,

UNIVESITY OF LOUISVILLE

Medical Department.

SESSION OF 1903-'04.

The Session of 1903-'04 Comprizes Two Terms.—The first term will begin September 21, 1903, and end April 1, 1904, a period of six months; the second term will begin January 1, 1904, and end July 1, 1904, a period of six months. Attendance on either term will entitle the student to a credit of one year on the four years' course required for graduation. A complete course of instruction in all departments of medicine will be given during each term. Twelve months must intervene between matriculation for one term and matriculation for another.

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Alkarhein: Its Therapy.

James G. Putnam, M. D.

The careful physician needs not to be informed on the therapeutic uses of the several remedies entering into the preparation called Alkarhein as they are known to him. The combination contains the following ingredients:

Rhubarb,
Golden Seal (active principles only).
Ceylon Cinnamon,
Pancreatin,
Oil Peppermint,
Bi-carb. Potassa.

We will, therefore, take into consideration only the virtues of Alkarhein in its entirety. Familiarize yourself with the name. The term Alkarhein is simply a new name for Alkaline Elixir Rhubarb Comp. with Pancreatin, coined by the Wm. S. Merrell Chem. Co., to distinguish it from other preparations claiming to be of like formula.

I deem this preparation greatly superior to the old "neutralizing cordial" in at least two particulars—the almost entire absence of sugar which is excessive in the cordial, and the presence of pancreatin, which is absent from the cordial. As is well known, sugar increases the fermentative process in stomach and bowel troubles, hence this process needs to be inhibited rather than promoted.

It has never been my practice to use this remedy promiscuously in cases of cholera infantum, cholera morbus, diarrhea or other bowel complaints. Conditions are different in different cases, some having an excessive alkaline condition and others an excessive acid condition. The acid condition must predominate in order to get the best results from Alkarhein and this is known by pale mucus membrane in the mouth. As potassium salts are mildly irritating to mucus surfaces an alkaline condition of the stomach plus a potassium salt would favor an increase of the irritation which exists already in diarrheal troubles, while an acid condition of the stomach would neutralize the effect of the potassium salt and vice versa.

Bearing these facts in mind we will find that the administration of Alkarhein will be both pleasant and satisfactory. In sour stomach we have nothing better. It neutralizes the acid condition, sweetening the contents, stimulating normal secretion and soothing the irritated mucus coat. Of course where we have a stomach loaded with undigested, fermented food the stomach should be emptied, especially if there is nausea. I have often had a teaspoonful of the elixir produce the desired vomiting in such cases. Given a case of any stomach or bowel disease where there is paleness of mucus membrane, tongue full and broad and coated white, with perhaps nausea or vomiting of sour, acid material, with either constipation or diarrhea, the administration of Alkarhein (20 to 30 drops every hour or two for infants and children, and one to two teaspoonfuls for adults) will give almost certain results. In the majority of cases I prefer small doses (as above) repeated often. In some cases a single, large dose will be best, then followed by simple medication, especially if the diarrheal movements contain much fecal matter.

This elixir acts nicely with almost any combination; with geranium if there is considerable watery diarrhea; with a mild laxative if there is constipation; with capsicum, xanthoxylum or nux vomica if there is atonicity; with nux colocynth or dioscorea if there is colic; with codene phosphate if colic is severe, either in children or adults. I never give paregoric or laudanum to children. The simple remedies mentioned above, given with Alkarhein will generally do specifically what your opium will do, without the dangerous effects.

Do not give Alkarhein in this or that disease just because some one has recommended it, but give when indicated by the conditions present as named above. I need hardly to mention the matter of regulation of diet in connection with medication. This or no other remedy will act satisfactorily as long as the patient is kept loaded with improper foods.

In His discriminating mercy, God has abundantly blessed the medical profession in the use of indigenous herbs, etc., in sickness, so let us use them singly or combined with common sense, always doing good and no harm.

Cartersburg, Ind., June 18, 1903.

Repertoire of Therapeutics.

Of all the agents advocated against tuberculosis creosote is the only one which has been clinically and experimentally tested with success. What was taught to us by empirical medicine is strangely justified by the experiments of d'Arloing who has demonstrated by sero-reaction that an organism submitted to the creosote treatment was manufacturing a defensive toxin, able to influence *in vitro* the vitality of the bacillus of Koch.

But while it remains evident that creosote is the essential active principle against the baccillus of tuberculosis, the form under which it should be administered has always been discussed until now. Used in a crude state, creosote provokes gastric troubles, which are attributed to the free phenolic functions making it caustic.

M. Ballard (Thesis, Montpellier, 1894) has succeeded in preparing the Phosphite

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of Creosote, which he has called Phosphotal, by making the trichloride of phosphorus act on sodic creosote. Thus is obtained a thick liquid, reddish-yellow, possessing a feeble odor of creosote, which contains 90 per cent. of creosote and about 9 per cent. of phosphorus, in the form of phosphorus acid.

The phosphorus is then absorbed in an assimilable state and rapidly regenerates the nervous tissue, while it transforms in resorbable fat the products of exudation of the pulmonary alveolæ.

Phosphotal, or ether of creosote, is not caustic, the proof of this is that even in heavy doses it does not produce gastro-intestinal disturbances. M. Ballard gave five grammes of phosphotal daily during three years to one of his patients who never was inconvenienced by it; this innoxiousness of the phosphite of creosote has been confirmed by the experiments of Vedel.

It will only be necessary to determine how long it takes for the elimination of phosphotal, so as to ascertain its absorption. A patient (Thesis Fouzes Diacon) takes an anema of 300 grammes of milk containing 1 gramme 20 of phosphotal, and although he retained it only one hour and a quarter, we find the creosote in the urine one hour and a half after the administration of the enema. On the following day more than one-half of the creosote given was found in the urine.

No preparation of creosote possesses such conclusive advantages.

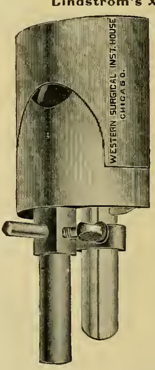
Phosphotal may be prescribed in two different ways; either in utilizing the Capsules Clin au Phosphotal at the dose of from 4 to 12 capsules a day, or in compounding an enema with a teaspoonful of the Emulsion Clin au Phosphotal dissolved in a half glass of tepid milk.

The capsules Clin are gluten coated; this substance which is affected only in alkaline surrounding, goes through the stomach and is only transformed in the intestine by contact with the pancreatic juice. It results from this that the medicine administered to tuberculous patients in this shape cannot deteriorate their stomach which constitutes their only defense.

Melancholia, Insomnia and General Lowering of Nerve Power.

In a very forceful and exceedingly interesting paper on this subject, published in the *Cincinnati Lancet-Clinic*, Dr. T. D. Fink, of Louisville, Ky., writes the following: "I am convinced that there is no other remedy so useful and attended with such satisfactory results in the treatment of melancholia with vasomotor disturbances, anemic headache, emotional distress, and active delusions of apprehension and distrust as Antikamnia Tablets. These tablets also increase the appetite and arterial tension, promote digestion, and are particularly serviceable in relieving the persistent headache which accompanies nervous asthenia. In neurasthenia, in mild hysteroid affections, in the various neuralgias, particularly ovarian, and in the nervous tremor so often seen in confirmed drunkards, they are of peculiar service. Patients who suffer from irritable or weak heart, needing at times an analgesic, can take them without untoward after-effects, knowing that the heart is being fortified. In delirium tremene, they relieve when there is great restlessness with insomnia and general lowering of the nerve power. The pain of locomotor ataxia yields to treatment with Antikamnia Tablets in a remarkable degree, their analgesic power being of a peculiar kind, in that they will relieve painful affections due to pathological conditions of the peripheral nerves, as neuritis, etc., also lumbago, sciatica and myalgia. In chronic catarrh of the stomach, with its often accompanying headaches, in cardiac dropsy, and in ascites, they are of decided benefit."

Lindstrom's X-Ray Screen.



As it is now an established fact that the X-Ray will burn the patient as well as the operator, if exposed too long to the X-Rays, it is necessary that every user of the X Ray machine should use an X-Ray Screen.

The cut here shown illustrates a screen, which is very simple, and which can be attached to any good tube holder. As can be seen from the illustration, the tube is connected to the screen and the screen is held by an ordinary tube holder, which enables the operator to adjust it the same way as a tube.

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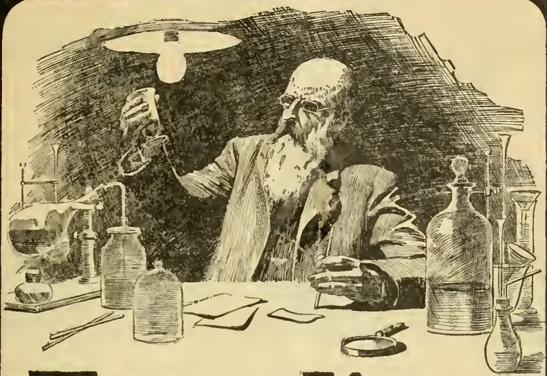

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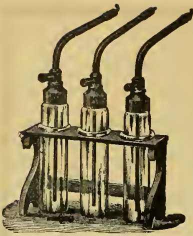

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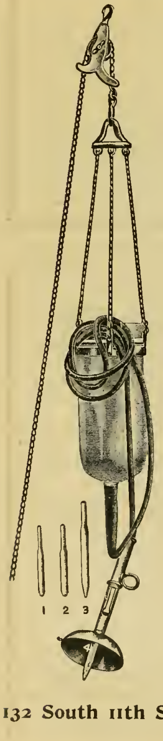

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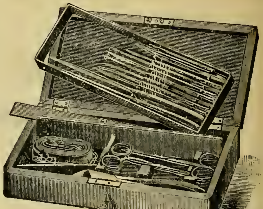

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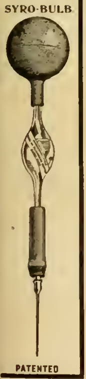

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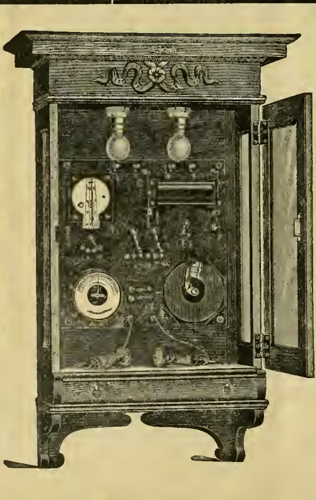

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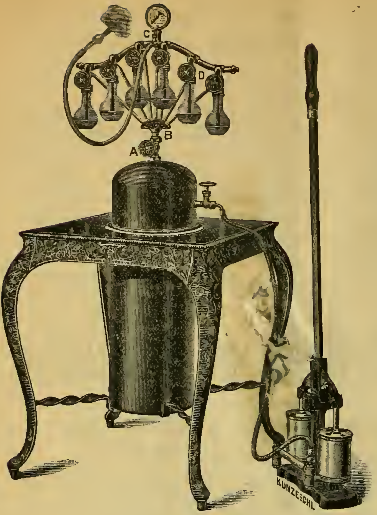

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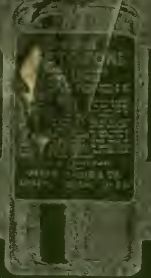

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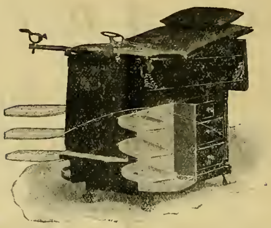

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Besides being a specific for dropsies, it is a permanent cure in the conditions mentioned when begun early and continued a sufficient length of time, *i. e.*, until the diseased organs regain normal function. ANASARCIN is composed of the active principles of Oxydendron Arboreum, Sambucus and Urginea Scilla, and is sold exclusively to physicians or druggists for physicians. Trial box free with literature and testimonials furnished physicians on application.

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SYRUP HYPOPHOSPHITES COMP. WITH QUININE, STRYCHNINE AND MANGANESE.

1-128 grain Strychnine to teaspoonful.

The pharmaceutical skill displayed in making this favorite compound more stable and agreeable, deserves the approbation of the profession.

Syrupus Roborans as a Tonic during Convalescence has no Equal.

As a nerve stimulant and restorative in waisting and debilitating diseases, as a constructive agent in Insomnia, Pneumonia, Bronchial Asthma, Marasmus, Strumous Diseases and General Debility, this compound has no superior. Owing to the solubility of the salts, additions can be made of Fowler's solution, Syrup Iod. Iron, Iod Potass, etc., giving the advantages of these remedies without interfering with the stability of the preparation. SYRUPUS ROBORANS is in perfect solution, and will keep in any climate.

Dr. T. H. Stucky writes: "In a case of Tertiary Syphilis, very anemic, the Iodides were revolting to the stomach, being vomited when taken. Syrupus Roborans given three weeks with improvement, when the Iodides Potassium was retained with good results."

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Please note that Essence and Elixir Pepsin contain only Pepsin, while in Peter's Peptic Essence we have all the digestive ferments. These are preserved in solutions with C. P. Glycerine in a manner retaining their full therapeutic value, which is exerted in and beyond the stomach.

It is a stomachic Tonic, and relieves Indigestion. Flatulency, and has the remarkable property of arresting vomiting during pregnancy. It is a remedy of great value in Gastralgia, Cholera Infantum and Intestinal derangements, especially those of an inflammatory character. For nursing mothers and teething children it has no superior. Besides mere digestive properties, Pepsin and Pancreatine have powerful soothing and sedative effects, and are therefore indicated in all gastric and intestinal derangements, and especially in inflammatory conditions. It is perfectly miscible with any appropriate medium. In certain cases the addition of Tr. Nux Vomica gives much satisfaction. Please write for Peter's Peptic Essence and you will not be disappointed. These preparations are held strictly in the hands of the medical profession, never having been advertised as popular remedies, nor put up with wrappers and circulars expatiating on the use of the Hypophosphites or Digestive, thus educating the public in the use of these valuable compounds.

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INDISPENSABLE FOR PURE WHOLESOME FOOD,

Royal Baking Powder is made from cream of tartar, a product of the grape, and the most healthful of all fruit acids.

Royal Baking Powder vesiculates the dough by mechanical means, without fermentation, and in no way affects or changes the constituents of the flour. There is no destruction of the gluten or sugar, but all those elements are preserved which are intended by nature, when combined in our bread, to make it literally "the staff of life."

Fresh bread, cake, biscuit, griddle-cakes, etc., raised with Royal Baking Powder, may be eaten with impunity by persons of dyspeptic tendencies or the most sensitive stomachs.

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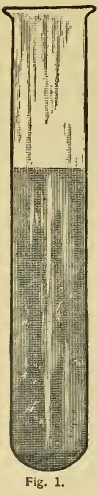

Fig. 1.

TEST TUBE EVIDENCE

is convincing and shows the rapid effect obtained by the administration of

Cystogen

in Cystitis, Bacteriuria, Phosphaturia, Pyuria, and all other conditions indicating a diuretic and urinary germicidal agent.

☜ Fig. 1. Urine cloudy; fetid odor; full of bacteria, pus, blood and epithelial cells; ammoniacal.

Fig. 2. Urine clear and sweet, amber colored, acid reaction.☞

This result has been obtained in one week by giving CYSTOGEN grs.5 four times daily.

Administered in five gr. doses three or four times daily, CYSTOGEN will make the urine a solution of formaldehyde, and thereby inhibit the formation of pus, prevent ammoniacal decomposition, and render it bland and unirritating to the mucous membranes.

Cystogen is prepared in powder and tablets of 5 grs. each.

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CYSTOGEN CHEMICAL CO.

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WRITE FOR LITERATURE.

D 61.

Fig. 2.

The Charlotte Medical Journal.

Vol. XXIII. CHARLOTTE, N. C., OCTOBER, 1903. No. 4

The Significance of the Recently Recognized American Hookworm Disease for the North Carolina Practitioner.

By Ch. Wardell Stiles, Ph.D., Chief of Division of Zoology, Hygienic Laboratory, U. S. Public Health and Marine Hospital Service.

[*Concluded from September Number.*]

Several authors have remarked upon the presence of black, brown, or purple spots on the tongue in cases of uncinariasis, and the view has been advanced that these present a valuable aid in diagnosis, and in some cases, at least, that they disappear on treatment. In the cases which came under my observation, I looked very carefully for this symptom. In many instances I found more or less distinct purplish to brownish spots, irregularly round or elongate in shape, and these may or may not be identical with the spots described by the authors cited. It was, however, noticeable that in many cases where these spots were observed, the patients were accustomed either to chewing tobacco or to dipping snuff. In fact, some of the spots in question I am inclined to refer to the use of tobacco or snuff. Whether all cases are to be explained in this way is, however, open to question, with probabilities against such explanation. Nevertheless, it is well for practitioners to be forewarned upon this chance of error in diagnosis. Several authors have assumed that the spots on the tongue represent a symptom which has only recently been observed in this disease. In this connection it is interesting to note that early authors—for instance, Cragin (1836a) and Imray (1843)—in writing upon dirt-eating have described these same spots.

Neck.

The cervical pulsations are often very evident, and in some cases may be seen from 6 to 12 feet away. (See Circulatory system.)

Thorax.

In emaciation the thorax corresponds to the general emaciation of the extremities. In some cases the ribs are very prominent.

Abdomen.

"*Pot-belly,*" *or* "*buttermilk-belly,*" "*shad-belly,*" *dropsy, and tympanites.*—The condition known as "pot-belly" or "buttermilk-belly," is exceedingly common in uncinariasis, especially in extreme cases in summer. It is a distention of the abdomen, due apparently to two factors: (1) a gaseous distention of the bowels, and (2) the presence of an excess of fluid in the abdominal cavity.

I hasten to add that I have seen only one autopsy in man infected with uncinariasis, but the same abdominal distention is found in animals suffering from this disease, and a number of post-mortem examinations, especially on sheep, have given the conditions described.

Lutz mentions flatulence of the lower abdomen as a common symptom, and Sandwith (1894, p. 11) found it present to a slight extent in one-third of the cases.

Extremities.

Nothing of any particular note was observed in connection with the bones. In many cases the feet and ankles were swollen, and in several cases the legs were marked with ulcers.

According to Sandwith (1894, p. 12), edema of the legs, like albuminuria, is to be seen only in the worst cases, and some of these had general edema when admitted in a dying condition.

Mucous Membranes.

All mucous membranes correspond, in respect to their color, to the grade of anemia.

EXCRETIONS AND SECRETIONS.

Urine.

I have no observations to record in regard to the urine. Sandwith (1894, p. 11) states that—

> "The urine is not unlike that of ordinary anemia, neutral or alkaline in equal proportion, and rarely acid, pale colored, with specific gravity ranging from 1010 to 1015. A trace of albumen was present in all the most advanced cases, without casts under the microscope."

According to Zinn and Jacoby (1898, p.

16), Lussana (1890) found in the urine of patients suffering from uncinariasis a poisonous substance of the nature of a ptomaine, which caused extensive changes in the rabbit's blood, especially a change in the number of red blood corpuscles, and also poikilocytosis. These results are said to have been confirmed by Arslan, 1892.

Feces.

Consistency.—The feces may be hard or soft, according to the presence of constipation or diarrhea.

Reaction.—In reaction the feces may be acid, alkaline, or neutral.

Color.—In a large proportion of medium and severe cases, the feces are reddish to brown in color. In some cases blood is present.

Blotting paper test.—In about eight out of ten medium and severe cases, if a portion of the feces is placed upon white blotting paper, and allowed to remain there for twenty minutes to several hours, it leaves on the paper a reddish brown stain similar to a blood stain. This test will be found useful by physicians who are not prepared for microscopic tests.

Microscopic examination.—If the feces, less than twenty-four hours old are examined microscopically, the eggs will be found in various stages of segmentation. If feces over twenty-four hours old are examined the free embryos also are usually found. If free embryos are found in perfectly fresh feces, the diagnosis of infection with the worm *Strongyloides stercoralis* (*a*) of Cochin-China diarrhea must usually be made, and this parasite we may find in the same patient in whom uncinariasis is present.

CIRCULATORY SYSTEM.

The symptoms of the circulatory system are the most marked and most common; they seem to develop after the symptoms of the digestive system, but before those of the nervous system.

Anemia.

In all medium and severe cases, the anemia is what first attracts attention. This varies in intensity not only in proportion to the degree of infection, but also to a considerable extent in proportion to the length of the period of infection. For instance, 100 worms may be expected to produce a greater anemia within a given time, say one year, than will 50 parasites. But 50 worms may be expected to produce more anemia in two years than in one.

In some medium cases, the blood vessels of the conjunctivæ may be more or less visible, and the visible mucous membranes of the nose, mouth, and vulva, may be more or less of a normal or subnormal color. In the extreme cases, these structures may be as white as marble or paper. In the same way the color of the skin will vary from an almost natural hue to a whitish, lemon yellow, or tan color.

Blood.—I did not stop for blood counts, as these have been made by other men, and while they are exceedingly interesting from a pathological standpoint they have not appealed to me as so direct a method of diagnosing intestinal parasites as is the fecal examination. In general it may be said that the blood of man corresponds to the blood of sheep, goats, cattle, dogs, etc., suffering from the same disease; in other words, the severer and longer the infection the thinner the blood. In the vernacular of the sandlapper, it is "like water." It may here be added that in early literature on dirt-eating, several authors remark upon the water-like appearance of the blood.

Speaking in more technical language, the blood has been shown by Ashford to possess the following characteristics:

"1. A severe anemia, falling as low as that of Addison's anemia in count of red cells in some cases. 2. A very low hemoglobin average and a very low color index. 3. A marked eosinophilia in some cases; 40 per cent reached in one case. This follows the observation of Neusser. 4. No leucocytes common to the disease itself. Leucocytosis recorded is always apparently due to complications, as noted. 5. Frequent presence of normoblasts, and in some cases megaloblasts, but never a majority of megaloblasts. 6. Poikilocytosis common. Manson denies this."

Ashford gives the following interesting table of blood counts:

---

[a] This worm is probably much more common in this country than supposed.

Schedule of Blood Examinations.

Date.	Current number.	Red cells.	Hæmoglobin.	White cells.	Percentage of polymorphonuclear leucocytes.	Percentage of small lymphocytes.	Percentage of large lymphocytes.	Percentage of eosinophiles.	Normoblasts per cubic millimeter.	Megaloblasts per cubic millimeter.	
November 4...	1	1,530,116	20	6,800	65	21	9	5	26	13	Poikilocytosis. Polychromatophilia, many microcytes and macrocytes. Treatment: Digitalis and peptomangan. Recount, November 23, 1899: Hæmoglobin, 16 per cent; red cells 1,880,000.
November 3...	2	697.776	20	7,960	59	17	15	9	144	46	Poikilocytosis. Polychromatophilia, many macrocytes and microcytes. Treatment: Pil. ferri. quin. et strych., and pil. arsenic. Recount, November 23, 1899: Hæmoglobin, 23.5 per cent; reds, 2 664,440.
November 4...	3	1,533,112	22	2,000	64	22	8	6	8	0	Poikilocytosis. No rouleaux. Treatment: Digitalis and peptomangan. Recount, November 23, 1899: Hæmoglobin, 23 per cent; reds, 1,973,328.
November 5...	4	1,200,000	15	4,200	64	23.4	6	6.6	109	8	Poikilocytosis. Polychromatophilia. Treatment: Digitalis, sirup, ferri iodidi. Recount. November 23, 1899: Hæmoglobin, 17.5 per cent; reds. 801,104.
November 6...	5	1,484,440	10	6,000	64	24	8	4	12	0	Poikilocytosis. Slight tendency to rouleaux formation; macrocytes and microcytes, latter predominate over former. Recount, Novembor 23, 1899; Hæmoglobin. 14 per cent; reds, 687,776.
Do.........	6	2,193,328	23	8,800	65	26	8	1¼	123	35	Poikilocytosis. No tendency to rouleaux formation. Treatment: Digitalis, pil. ferri, quin. et strych.
November 7...	7	1,633 328	17	5,600	60	23	5	12	11	0	Poikilocytosis. Many macrocytes and microcytes. Slight rouleaux formation; marked chromatophilia. Treatment: Digitalis, liq. potas. arsenitis in increasing doses to gtt. 5 t. i. d.
Do........	8	2,064,664	23	4,800	74	17	6	3	28	0	Poikilocytosis. Rouleaux formation good. Treatment: Pil. ferri, quin. et strych., and digitalis. Recount, November 23, 1899: Hæmoglobin, 31 per cent; reds, 3,084,440.
Do.........	9	1,271,104	14	7,800	60	17	6	17	30	15	Has elephantiasis arabum, but I can not identify the filaria as yet. Microcytes rule over macrocytes. Good rouleaux formation. Treatment; Peptomangan. Recount, November 23, 1899; Hæmoglobin, 24 per cent; reds, 2,520,0000,
Do.........	10	1,600.000	17	1,500	72	20	4	4	6	0	Poikilocytosis. Recount, November 23, 1899: Hæmoglobin, 13 per cent; reds, 668,888.
November 8...	11	1,800,000	25	4,600	69	22	7	2	9	0	Poikilocytosis.
Do.........	12	2,266,656	30	6,680	52	26	12	10	0	0	
November 9...	13	1,268,888	20	6,800	63	17	7	13	0	0	Poikilocytosis, Rouleaux formation good.
Do.........	14	2,440,000	25	11,000	50	10	9	31	0	0	Poikilocytosis. Rouleaux formation slight; has abscess of the liver.
Do.........	15	2,353,328	17	12,700	73	17	5	6	0	0	Poikilocytosis. Rouleaux.
Do.........	16	2,934,444	......	5,200	72	20	4	3	10	10	Tertian malarial parasites found. Rouleaux good.
November 10..	17	2,140,000	23½	18,000	40	12	8	40	36	0	Poikilocytosis. Rauleaux good. I believe this man to have been suffering from pneumonia at the time of examination, although the differential seems strange.
November 20..	18	3,524,440	55	14,800	88	9	3	1.5	0	0	Only case not presenting ankylostomes. Has tuberculosis.
November 12..	19	(*a*)	30	9,000	60	16	10	10	125	......	Poikilocytosis. Rouleaux formation good.
November 20.	20	1,560,000	16	2,400	72	10	5	18	0	0	

a Unknown.

Cervical pulsations.—In the rural vernacular, "jerking at the neck" or "jumping at the neck" refers to an anemic symptom which is exceedingly prominent in most medium cases and in all extreme cases of uncinariasis. It is simply the violent pulsations of the cervical vessels, visible sometimes at the distance of two to four meters.

Heart.—Nearly all medium and severe cases complain of having "heart disease," or a "fluttering of the heart," and many of the patients are taking medicine for this symptom. We have here, of course, the usual cardiac symptoms of an extreme anemia.

"Palpitation over the heart, in the epigastrium, and in the temporal arteries is sure to be present in bad cases, while the anemic murmurs of the heart and neck are solely dependent upon the degree of anemia, and can be banished by a prolonged course of iron. Hypertrophy of heart was noted and verified after death in some of the advanced cases." (Sandwith, 1894, p. 12.)

Pulse.—Pulse varies from 80 to 132 per minute. In medium and severe cases I noticed about 120 per minute probably more frequently than either a higher or a lower pulse. This was found in young and middle-aged (probably more commonly in children), in males and females, and yet without a temperature which was distinguishable by the hand as especially high.

TEMPERATURE.

Not being able to follow any cases for any length of time, hence not being able to make continued observations on the temperature, I considered that observations in other lines were more important under the circumstances. Hence I did not take temperatures carefully. According to observations by various clinicians, there may be subnornal or normal temperature, or the thermometer may register 100 deg. to 102 deg. F.

"The skin is always cold, and the temperature before thymol generally subnormal in uncomplicated cases. After excluding any fever produced by concurrent diseases, and any defervescence caused by thymol, I find that one-third of my patients had a normal temperature during their stay in the hospital, but that two-thirds had a distinctly subnormal range, varying from an average of 36.3 deg. C. a. m. to 36.9 deg. C. p. m.

"Many of these patients when convalescent had an increase of half a degree, night and morning.

"Surgeon-Major Giles suspected that many of his patients in Assam had suffered from fever at the onset of their malady, and he was confirmed in this impression by observing pyrexia in the monkeys he fed on anchylostoma embryos. After eliminating all those who had fever in the hospital, or a history of intermittent fever or any enlargement of the spleen, I found that 68 per cent of the remaining stated that their trouble had begun with a few days' fever." Sandwith, 1894, p. 12.

RESPIRATORY SYSTEM.

Respiration.

Many patients complain of a difficulty in breathing, especially after exertion. This symptom is quite natural, in view of the low condition of the blood and the emaciation of the muscles. Respiration is rather variable and does not appear to be a symptom of very great value; it may be slow, or it may be increased to about 30 or more per minute. According to Sandwith, 1894, p. 12, dyspnea and noises in the ears were present, as might be expected with marked anemia.

MUSCULAR SYSTEM.

Emaciation.

A progressive emaciation is more or less common, especially in severe cases. The arms and legs seem to be reduced to skin and bones, the chest is so emaciated that the ribs are very prominent and the beating of the heart is very evident. What little muscle is left is soft and flabby.

Emaciation is, however, not present in all cases, and even in some medium infections the muscles may be well formed and more or less hard. I recall one case in particular: A boy about 14, who showed a heavy infection microscopically, a clear clinical history of uncinariasis of several years' standing, decided anemia, distinct cervical pulsations, abdomen rather distended ("pot-bellied"), yet his arms and legs were well-formed and his muscles surprisingly solid for a patient in his condition.

Sandwith, 1894, p. 13, found the average weight of 100 grown men upon admission to the hospital to be 117.5 pounds; the average height of these men was 5 feet 5.5 inches, which by Dawson's tables should scale at least 135 points. Of the patients who stayed in the hospital more than two weeks 70 per cent gained weight, 22 per cent lost, and 8 per cent remained stationary. The average loss of weight was 3.2 pounds, and was, of course, caused by necessary starvation, thymol, and purging. The average gain was 5.4 pounds, some patients gaining as much as 15, 17, 18 or 20 pounds.

Great Physical Weakness.

One of the most pronounced symptoms complained of is a general weakness. The patient states that he is obliged to rest after exertion. In light cases a feeling of lassitude is experienced without being able to assign it to any particular cause; as a result, it is generally assigned by other people to laziness. In medium cases the patient may be able to work one to three or four hours before becoming exhausted; in very severe cases he will scarcely be able to walk across the room, or he may be confined to the bed for weeks at a time. A physical examination usually shows an emaciation proportionate to the weakness.

DIGESTIVE SYSTEM.

Nausea.

Nausea was not noticed. Sandwith, 1894, p. 11, states that vomiting and nausea are rarely complained of.

Appetite.

The appetite may be light or ravenous. According to Sandwith, the appetite is invariably affected, sometimes ravenous at beginning, but later always capricious and diminished. The English nurses report to him that the patients were always begging for medical comforts or cigarettes, even in the middle of the night when other patients were asleep. Among 40 men carefully examined, 16 said that their appetite was once greatly exaggerated, 16 pleaded diminution from the beginning of their illness, and 8 believed that their appetite was normal until the anemia became very marked.

Perverted appetite, "*Dirt eating*."—The most important point to be noticed in connection with the appetite is the abnormal desire for some particular article of food. Frequently this is a preference for something sour or bitter.

Many patients with uncinariases are known throughout the village or county as being especially fond of pickles. I have seen boys and girls in advanced cases of this disease who would greedily devour an entire bottle of pickles. Some patients are especially fond of sucking lemons, or lemons and salt, or salt alone. Others are known for their desire to chew coffee, or to drink large quantities of strong coffee without milk or sugar. Some are abnormally fond of buttermilk. Others are noted as "resin-chewers." Some are accused of "lapping sand." Many are accused of eating clay or dirt.

Dirt-eating has been discussed by a number of authors, opinion being divided as to its status. Some writers look upon it as the cause of the disease; others view in the habit only a symptom or a result; still others consider it nature's treatment of a diseased condition.

Among helminthologists there seems to be the impression that dirt-eating is especially likely to lead to infection with parasites. Among Southern physicians I found the idea quite prevalent that dirt-eating was one of the causes of the condition which I have classed as extreme uncinariasis.

During the trip now under discussion, I have had opportunity to observe many so-called dirt-eaters. As most authors state, it is exceptional that one will acknowledge that he eats dirt. I believe the explanation of this denial is very clear, namely, not only is there a certain amount of disgrace connected with the reputation of being a dirt-eater, but probably not over one person in ten, or possibly in twenty, accused of eating dirt ever does so. The other nine to nineteen have their abnormal appetites developed in a different direction, namely, pickle-eating, lemon-sucking, coffee-chewing, resin-chewing, etc.

Among the articles eaten by these "dirt-eaters," various authors mention charcoal, chalk, dried mortar, mud, clay, sand, gravel, stones, shells, rotten wood, cloth, garments, paper, tobacco, pipes, mice, young rats, etc.

It is, I believe, an error to attempt to reduce this abnormal habit to any one common basis. In general, however, it may be stated that the alleged "dirt-eating" in this country practically represents the severe cases of uncinariasis. To attempt to reduce dirt-eating to infection with worms, particularly with *uncinaria americana*, will doubtless be thought extreme, more particularly by Northern physicians. Still the idea is not a new one, and a moment's consideration will show that this view is far less extreme than it at first appears.

For an excellent general discussion of dirt-eating, with extensive references to literature, the reader is referred to Le Conte 1845. For the purpose of the present paper it will suffice to call attention to certain facts and analogies. The habit of eating slate pencils, paper, and other objects, by chlorotic girls is more or less commonly known. Pregnant women, also, may develop an abnormal appetite, which takes different phases, including dirt-eating. It is recorded that the Javanese women eat certain dirt in order to improve their appearance. In certain localities in tropical America (Orinoco) the natives eat earth during the overflow of the river when they cannot obtain their regular food. Earth eating is said to be common and not injurious in certain parts of Africa. According to Sandwith, 1894, p. 9, on the day of the maximum high Nile, and the general rejoicings thereupon, the town crier, who is on the lookout for backsheesh, presents "teen ibliz" (Nile mud) with a lemon to the inhabitants for luck, and many of them eat of it. Dogs, horses, cattle, hogs, and alligators are recorded as eating clay and sticks. The Alaskan seals, when infected with round worms, eat pebbles. Elephants, when infected with flukes, eat a certain kind of clay until a looseness of the bowels is produced. I have frequently heard Texas grangers attribute the death of cattle to eating sand, and in post-mortem examinations of cattle, sheep and goats, in an anemic condition from intestinal worms (verminous gastritis caused by *Hæmonchus contortus*, *H. Ostertagi*, etc., and infection of small intestine with *uncinaria trigonocephala* and *uncinaria radiata*), I have repeatedly noticed in the stomach and intestine large quantities of sand; so that the farmers present declared that this was the cause of death. Dogs infected with intestinal worms eat grass. Cats also frequently eat grass, probably from the same cause. Children infected with eel worms, *Ascaris lumbricoides*, are known to occasionally eat dirt, and I know of one such case where the habit ceased when the worms were expelled.

In view of the comparisons cited, it would seem that the idea of considering dirt-eating as a manner of infection with parasitic worms, although conceivable for some cases, is hardly correct as applied to most instances. That dirt-eating is an abnormal appetite due to a diseased condition (anemia and a disordered digestive system) as suggested by several authors as early as the first half of the last century, seems to me to be an explanation of much more general application; and that this anemia and enteritis or gastritis may be produced by parasitic worms is an established fact. In this connection, it is interesting to note that Hancock, 1831, p. 67, in discussing dirt-eating, mentions "worms preventing the nourishing effects of food;" Imray, 1843, p. 310, remarks that "worms in considerble numbers were not uncommonly accumulated in the intestinal canal." Further, it is significant that various authors, in discussing the treatment of dirt-eating, attribute more or less success to certain drugs which are in fact used more or less in treating for intestinal parasites. Thus Cotting, 1836a, refers, as stated above, to the decease of dropsy and of dirt-eating corresponding to the more general use of calomel; sulphate of iron is mentioned by Cragin, 1836a, Pollard, 1852, and others; according to Pollard, 1852, copperas is a popular and successful remedy among the negroes; Hancock, 1831, refers to a remedy containing arsenic as having great success; Jordan, 1832, states that dirt-eating decreased upon destroying the huts and moving the families to some other location.

To summarize: While it would seem decidedly extreme and unwarranted to maintain that dirt-eating is necessarily an indication of infection with intestinal worms, still I believe the conclusion is justified that it is undoubtedly a more or less common tendency in such infections, not only in man but also in other animals. It may be classed with the chewing of slate pencils, resin, coffee, sucking of lemons and salt, etc., as an abnormal appetite due to the anemia and abnormal condition of the intestinal tract. Further, for all practical purposes it is not much of an exaggeration to look upon most, if not all, so-called dirt-eaters of the sand areas of our Southern States as representing severe cases of uncinariasis,

Sandwith, 1894, states that 26 per cent. of his patients confessed to eating earth, and he refers to "earth hunger" as sometimes the cause and sometimes the effect of hookworm disease.

Pain in the Stomach; Indigestion.

Many patients complain of colicky pains "in the stomach," and will indicate the region between the navel and the ensiform cartilage as the seat of the "misery." Indigestion is frequently mentioned, and the tongue is occasionally coated.

Just how much the indigestion is due to uncinariasis and how much to other causes may be considered an open question. Foul breath is mentioned by some authors as a common symptom of uncinariasis, but this has not been particularly noticeable in many of the cases I saw.

Many authors explain the tendency to dirt-eating as an effort to neutralize the hyperacidity of the stomach. As I have shown, however, many patients with uncinariasis eat pickles and suck lemons.

According to Sandwith, a gnawing, throbbing pain in the epigastrium is the first symptom complained of, chiefly because it is constant, whereas a severe colic and borborygmi (rumbling of bowels caused by gas) of intestine are present from time to time. I was unable to confirm the constancy of the pain.

Constipation and Diarrhea.

Sandwith, 1894, p. 11, states that when the patient is not under thymol and purgative treatment, constipation is a very constant symptom in hospital cases; 60 per cent had suffered for a long time from obstinate constipation, 28 per cent had had diarrhea before admission, and 12 per cent had no recollection of being troubled with either. "None of the figures depending upon the memory of the patients must be taken as absolute truth, as the intelligence of many is of a very low order." Diarrhea, and even dysentery, are not uncommon in very advanced cases, especially those complicated with *Bilharzia* (=*Schistosoma*, which has not been reported as endemic in the United States), or ulceration in the rectum; and unless the patient is robust enough to support thymol, such cases are apt to end fatally.

In my own cases I found both constipation and diarrhea, but I am not in a position to state that either symptom was regular or characteristic for any given degree or stage of infection. In severe cases diarrhea was certainly more or less common.

NERVOUS SYSTEM.

The nervous symptoms usually develop later than either the intestinal or the circulatory symptoms.

Ears.

According to Sandwith, 1894, p. 12, noises in the ear are present. None of my patients complained of this symptom.

Mental Lassitude, Headache, Dizziness, and Nervousness.

Not only does physical exertion result in exhaustion, but mental exertion has to be avoided. The children complain that they are unable to study, and that any continued application to books results in severe headache. This feature of the disease is fully confirmed by the testimony of both teachers and parents, who assert that children of this class are usually much more backward (and even stupid in their studies) than other children not showing the symptoms under discussion.

Dizziness is very commonly mentioned by the patients. This feeling, which they usually speak of as a "swimming in the head," is experienced especially upon rising suddenly from a chair or a bed.

Nervousness does not seem to be so commonly complained of as mental lassitude, headache and dizziness. Still it is more or less frequently mentioned, more particularly by the girls and women.

Among girls from about 13 to 20 years of age it was quite noticeable that they were more timid and more emotional than were their healthier sisters.

According to Sandwith, 1894, pp. 11-12, there is pain in the head, generally referred to the temples, while in the knees there is almost invariably present great weakness and some pain; occasionally there is in addition pain in the shoulders. Giddiness is another very general symptom, and it is this as much as anything else which compels the patients to give up work. The worst cases are those which are nearly always asleep, and cannot be interested in anything when they are awake. On the whole, sleepiness is decidedly a symptom. Dense stupidity, associated sometimes with reiterated demands for a favor already granted, shows that the bloodless brain is affected in all advanced cases, and at least three times Sandwith, 1894, p. 13, found a condition of weak-mindedness which would have warranted the patients being sent to the asylum.

Patellar Reflex.

Absence of patellar reflex is reported in cases of general debility and muscular weakness. Sandwith, 1894, p. 13, found this reflex unaltered in 35 per cent of the cases examined, completely absent in 48 per cent, decidedly diminished in 5 per cent, and a little exaggerated in 12 per cent, all of which were early cases.

GENITAL SYSTEM.

External Genitalia; Sexual Function; Menstruation; Sterility.

In cases where infection has taken place in early childhood, the delayed development of the genital system is very marked. Patients of 16 to 22 years of age may not be better developed than healthy persons of 11 to 15 years. Menstruation may be very irregular, especially in summer. This same condition is insisted upon in many early writings on dirt-eating. Mothers frequently ascribe the condition of their daughters to the absence or irregularity of the menstruation, as is mentioned also in early writings on dirt-eating.

Sandwith, 1894, p. 13, found impotence to be a decided symptom in hookworm disease. Of 38 men especially examined on this point, 24 had completely and 5 had almost entirely lost their virile power, while of the remaining 9 men, 5 aged from 19 to 25 had their puberty considerably delayed.

Tendency to Abortion.

Among women affected with uncinariasis I found a marked tendency to abortion. Given a woman about 28 years old, who had been married nine years—a not uncommon history is that she has had 3 to 5 children and 3 to 4 miscarriages, and she looks to be about 50 years old. Not being able to follow these cases through their entire medical history and the history of their husbands, I must leave the question open as to how many of these abortions are to be attributed to uncinariasis and how many are due to other causes. In the country districts I was thrown in with the anemic not with the healthy families, hence I have no good basis for comparison of these two classes for the particular localities visited. In some cases a history of venereal disease was suspected or admitted; in others, the abortion came on after pitching fodder; in some cases the patients had taken more or less quinine during their life, under the supposition that they had malaria; and in still other cases, my suspicions were aroused in other directions. The determination of the exact relation of uncinariasis to the miscarriages, which are certainly strikingly prevalent, must be left to those who can follow the cases for a longer period of time.

PREVALENCE OF UNCINARIASIS IN THE UNITED STATES.

In my earlier papers—1901, p. 524; 1902, p. 778; 1902, pp. 183, 212—I have advanced the view that uncinariasis must be more common in this country than is generally supposed. In my preliminary report on this trip I said that: "There is in fact not the slightest room for doubt that uncinariasis is one of the most important and most common diseases of this part [South Carolina] of the South, especially on farms and plantations in sandy districts."

Harris went even further than this and claimed that uncinariasis is "the most common of the severe diseases of the South."

In considering the subject of the frequency and economic importance of the disease under discussion, I do not wish to seem to underestimate the prevalence of tuberculosis and of venereal diseases among the negroes or of malaria among the whites. Further, I recognize the fact that at the present moment an exact mathematical estimate cannot be made. Speaking in general terms, however, the facts at my disposal at present seem to indicate that taking the Southern Atlantic States as a whole, uncinariasis must be considered as one of the most common and widespread maladies; in frequency it belongs in the general class with malaria, tuberculosis, and gonorrhea.

In cities and in rural clay districts it is probably less common than any one of these three maladies, for such localities may present local foci of infection for the diseases in question, while the local foci of infection with uncinariasis are much more limited.

Among the negroes of the rural sand districts, uncinariasis seems to be much less common than either tuberculosis or gonorrhea. Its apparent rarity may, however, be deceptive.

Among the whites of the rural sand districts, uncinariasis is apparently the most common disease found. Nevertheless, in some sand districts, probably with a clay or other impervious subsoil favorable to the formation of marshes, malaria rivals uncinariasis for first place.

From these qualified statements it will be seen that I do not feel justified in adopting the view advanced by Harris, namely, that uncinariasis is "the most common of the severe diseases of the South."

In all probability, further study will show that in Mexico, Central America, and parts of South America, hookworm disease is more important and more common than in the United States.

Sandwith, 1894, pp. 1 6, in discussing the frequency of this disease in Egypt, says:

"It is impossible to know what amount of the population [of Egypt] is affected, but the statistics of the recruiting commissioners for 1902 are worth quoting. Nearly every adult male peasant is liable for conscription, and the conscripts are immediately examined in their villages. In upper Egypt 5,988 men were called, and 200, or 3.3 per cent, were rejected for anæmia. In lower Egypt 661, or 6.2 per cent were rejected from this cause out of 7,420 men. Every province furnished anæmic rejections, but Menoufieh came highest on the list with 13.9 per cent. while I find from hospital statistics that no less than 15 villages in that province are infected. The recruiting medical officer, who is an Englishman, only rejects those who are obviously too anæmic to serve with the colors, accepting many who are already the hosts of the bloodsucking worm. Thus the medical reports for the Egyptian army show that in 1890 there were 114 admissions to the hospital for anæmia, in 1891, 107 admissions, and in 1892, 170 admissions. In 1891, 22 soldiers were invalided from the service for anæmia, and 65 in 1892, besides 1 death. The number of admissions for debility is equal to those for anæmia, and doubtless includes many cases of anchylostomiasis."

Dobson, 1893, p. 63, examined 547 of the healthiest looking coolies from India and found hookworms in no less than 454 of them.

CLINICAL DIAGNOSIS OF HOOKWORM DISEASE.

As stated above, a man who is familiar with this disease should have no difficulty in recognizing severe cases, especially if he is in the area of infection. In light and medium cases, however, it is unsafe to make a diagnosis upon symptoms alone, unless such cases are associated in the same family or neighborhood with severe cases. The best and most reliable method of diagnosis is by fecal examination, although in blood examination increased eosinophilia indicates the possibility of intestinal parasites.

First of all, let us recall that uncinariasis is a possibility which should be considered in connection with all cases of anemia, especially among earthworkers, as in miners, brickmakers, canal diggers, farmers, etc., or in persons returning from the tropics, and among persons who have a history of residence on sandy soil. Three methods of fecal examination are open to us—the blotting-paper test and the microscopic and the gross examinations.

Blotting Paper Test with Feces.

For persons who are not in a position to make a microscopic examination, the blotting paper test will frequently be found very useful. To make the test, use only fresh feces. Place an ounce or more of the stool on a piece of white blotting paper (any absorbent white paper will answer the purpose); allow it to stand for several hours; remove the feces and examine the color of the stain. In about three out of five cases of medium or severe uncinariasis the stain is reddish brown, and immediately reminds one of a blood stain. In making this test on anemic patients, piles should of course be excluded.

It developed in my work in the Virginia penitentiary, that this test is open to error in dealing with criminals. In order to avoid work convicts, especially hard-labor contract convicts, occasionally produce a hemorrhage purposely by wounding the mucosa of the rectum by means of some sharp instrument.

Too much confidence should not be placed in this blotting paper test, and it shoule never be relied upon when a microscopic test is possible.

Microscopic Examination of Feces.

No special technique is necessary. Simply take a small amount of feces, preferably from near the surface, about the size of the head of a large pin; spread this out in a drop of water on an ordinary microscopic slide and cover the preparation with a covslip. Examine under any moderately high power, as a Zeiss 8 mm., Zeiss C, or a Bausch & Lomb one-fourth inch. Look carefully, with not too strong illumination, for an elongate oval egg with thin shell, and with protoplasm either unsegmented or in the early stages of segmentation. The older the feces and the warmer the weather the more advanced will be the segmentation. In case of infection with Uncinaria americana the fully developed embryo may be found within the eggshell. Be cautious not to mistake for the egg of the Uncinaria the eggs of Ascaris lumbricoides, which have a thick gelatinous, often mammillated, covering and an unsegmented protoplasm, or the eggs of Oxyuris vermicularis, with a thin asymmetrical shell (one side being almost straight) and containing an embryo, or the eggs of whipworms (Trichuris trichiura. more commonly known to physicians as Trichocephalus dispar), possessing a smooth, thick shell, apparently perforated at each pole, and an unsegmented protoplasm.

As a rule, in fecal examination I prefer to use the thick, large, 2 by 3 inch slide, such as is used in examining for trichinæ, rather than the ordinary 1 by 3 thin "English slide." The larger slide is not only more steadily and more easily manipulated in case one is working without a mechanical stage, but it is much cleaner to handle.

In most cases of infection with intestinal worms the simple method just described will suffice for a positive diagnosis. Before giving a negative opinion, however, I invariably make ten preparations or follow a procedure which we may call "sedimenting the feces." Experience has shown me that in cases of negative diagnosis by the simple method positive diagnosis occasionally results if the feces are washed and "sedimented."

Method of Washing and Sedimenting Feces.—Take one or two ounces of feces, fresh or dry, mix with water, and place in a large bottle, retort, jar, or any other receptacle; add enough water to make from a pint to two quarts, according to amount of feces; shake or stir thoroughly and allow to settle; pour off the floating matter and the water down to the sediment; repeat the washing and settling several times, or as long as any matter will float. The last time this is done use a bottle or graduate with a smaller diameter, and when the material is thoroughly settled examine the fine sediment. It will be found that the eggs have settled more numerously in the fine sediment than in the coarse material.

In case an unusual amount of large coarse material is present in the feces, it is sometimes convenient to pour the entire mass through a sieve, rejecting the portion left in the sieve; or to wash the feces in a sieve, holding the latter under water. As a rule, however, the sieve is not very useful in fecal examinations.

The centrifuge does not appear to be of any special value in fecal examinations.

If facilities are not at hand for making a microscopic examination, about half an ounce of either perfectly fresh feces, or of rather dry feces, may be placed in a bottle, preferably with a large neck, properly packed in a mailing case, and sent to any professional pathologist or zoologist for examination.

Gross Examination of Feces.

If uncinariasis is suspected, and it is not practicable either to make a microscopic examination, or to delay matters until a specimen can be sent away for examination, still another method of diagnosis is possible. Give a small dose of thymol, followed by salts, and collect all of the stools passed. Wash the stools thoroughly several times in a bucket, and examine the sediment for worms about half an inch long, about as thick as a hairpin or hatpin, and with one end curved back to form a hook. If these are found, institute definite treatment.

TREATMENT OF HOOKWORM DISEASE.

Anthelminthic Treatment.

The two drugs most commonly used in uncinariasis are thymol and male fern. The day before treatment the patient is placed on a milk and soup diet for three days.

Thymol.—The directions usually given for thymol treatment in adults are these: Two grams (31 grains) of thymol at 8 a. m., 2 grams (31 grains) at 10 a. m.; castor oil or magnesia at 12 noon.

One week later the stools should be examined, and if eggs are still present, treatment should be repeated until the eggs disappear, but it is not best to give the thymol more than one day per week. Some cases of hookworm disease are quite obstinate and require a treatment extending over several weeks. It is, therefore, an unfortunate error to expel a few worms with one or two doses and then dismiss the patient as cured without having made further microscopic examination for eggs.

Sandwith, 1894, p. 21, reports 42 men cured after a single dose; 58 after 2 doses; 43 after 3 doses; 25 after 4 doses; 9 after 5 doses; 4 after 6 doses; 2 after 7 doses, and 2 after 8 doses.

A number of writers, particularly Giles, Sandwith, and others, agree that small doses of thymol are valueless, but Sandwith is of the opinion that 4 grams in 24 hours are as efficacious as 6 grams, and the former dose is certainly less dangerous. In our American form of the disease I have known of several cases where numbers of worms have been expelled by smaller doses.

Worms may be found in the stools as early as eight hours after the first dose of thymol. In fifty cases Sandwith counted 1,301 worms in stools passed within eight hours after the first dose, and 444 worms within the next sixteen hours. From his context, however, it is clear that brandy was given to these patients (see below), hence the thymol was dissolved more rapidly. Giles reports that he seldom found any worms until twelve hours after the first dose of thymol. "Occasionally patients vomited after swallowing thymol, but as a rule they retained it perfectly," and "they used to ask for an extra dose of it while convalescing."

Sandwith goes on to say that "large doses of thymol have a poisonous effect on the system, not unlike those produced by carbolic acid. The temperature is lowered one or even two degrees centrigrade, and both pulse and respiration are slowed. The patient remains for a few hours collapsed, giddy and faint, and has to be kept lying down, but at sunset he is quite well again and asking for food." He gives the following as a typical case:

"January 14, 1892.—6 a. m., temperature 37.5 deg., pulse 80, respiration 19; patient in his usual state and was given 2 grams of thymol. 7 a. m,, temperature 37 deg., pulse 80, respiration 19; says he has slight nausea, giddiness, and colicky pains in the epigastrium. 8 a. m., 2 grams more of thymol given. 9 a. m., temperature 35.5 deg., pulse 70, respiration 17; great giddiness, cannot stand or walk; very sleepy, and talks like a drunken or very sleepy man. 12 a. m., symptoms much the same; sweating while asleep. 2 p. m., temperature 37.5 deg., pulse 75, respiration 18; apparently well again. Says he does not mind the thymol, except that it makes him lose consciousness."

Some authors advise the use of alcohol with thymol, others warn against such use. Sandwith, in referring to this subject, says: "Warned by the death of at least one of my patients immediately after digesting the thymol, I have always administered to feeble men 25 grams of brandy with each 2 grams of thymol, with the happiest results."

Authors who warn against the use of alcoholics during treatment, do so on the ground that thymol is soluble part for part in alcohol, hence will more quickly be absorbed by the system. With one of my assistants (see Stiles & Pfender, 1902a), in the Bureau of Animal Industry, I treated a number of dogs with thymol in various forms. We gave doses varying from 10 to 100 grains (0.648 to 6.48 grams) to dogs weighing from 8 to 35 pounds. In alcoholic solution, 30 grains (1.94 grams) caused convulsions in a dog weighing 15 pounds, and severe convulsions in one weighing 14 pounds; on the other hand, an 8-pound, dog suffered no ill effects after 30 grains in alcohol, and a 35-pound dog took 75 grains (4.86 grams) in alcohol without deleterious effect. In tablet form, without oil, a single dose of 100 grains (6.48 grams) killed a dog of 15 pounds in four days; a dose of 50 grains caused a 12-pound dog to attempt to vomit; a dose of 75 grains was without appreciable effect in a dog of 35 pounds; 30 grains were without effect on a dog of 8 pounds; daily doses of 20 grains each caused a slight diarrhea after six days in a dog of 15 pounds; the same dose caused a 17-pound dog to be quite sick on the sixteenth day. In tablet form, with castor oil, 30 grains caused a 12-pound dog to attempt to vomit, while doses of 10 and 20 grains were negative on dogs weighing 12 to 15 pounds. In powdered form, without oil, 20 grains caused a 12-pound dog to attempt to vomit, while doses of 10 and 20 grains respectively were negative in dogs of 12 and 15 pounds; 40 grains caused no ill effects in a dog of 8 pounds, and a dose of 80 grains was without effect on a dog of 35 pounds. In powdered form, with castor oil, 20 grains caused slight convulsions in a dog weighing 15 pounds, but doses of 10 and 20 grains were negative on dogs of the same weight. Blue foxes to which we gave 3 grains in alcohol became quite sick. Theobald states that a dose of 3 grains has produced partial prostration in a bull terrior, but he does not give the weight of the dog.

According to Sandwith, the contra-indications for thymol are "excessive debility, very low temperature, age above 60, and advanced diseases of the heart or any other organ. Boys take it very well in half quantities."

Sandwith states, 1894, p. 17, that of 8 fatal cases treated with thymol 2 died, he thinks, in consequence of the thymol, eleven and forty-eight hours, respectively, after taking the dose; both of these men had previously had thymol without bad effect, but they were both in a miserable state of exhaustion and debility. He does not think that thymol accelerated the deaths of any of the remaining 6 cases, which occurred five, six, nine, thirteen, fifteen, and nineteen days, respectively, after the last dose of thymol. Three of these cases were over 65 years of age.

While my experience with thymol in man is very limited, I must confess that from my experiments upon animals, I am afraid of the use of alcoholics *per os* during treatment, and in the case of weak patients I should be more inclined to use a stimulant hypodermically than run the risk of dissolving the thymol too rapidly or in too great quantity at one time. Furthermore, it is at least doubtful whether our American hookworm will be so difficult to expel as is the Old World species, because of the absence of the ventral hooks in Uncinaria americana.

In the case of "excessive debility" and other conditions which Sandwith designates as contra-indications for thymol, it is not clear what drug Sandwith would use, for he states, 1894, p. 20, that "for the last three years I have looked upon it as a waste of time to administer any other anthelminthic than thymol for this parasite," Agchylostoma duodenale. Certainly persons in the conditions described should not be allowed to go untreated, and despite the view advanced by some authors, smaller doses of thymol, repeated one day per week and extending over several weeks, may be expected to yield some results.

Male fern.—Several European authors advise the use of large doses of extract of male fern in treating hookworm disease. Eichhorst's, 1901, p. 314, recent "Practice" places the dose at 10 grams (2.5 fluid drams) to 20 grams (5 fluid drams). It has been pointed out by Lepine, 1891a, 1891b, and others that such large doses of this drug are likely to be followed by serious toxic symptoms and even by death. Lepine summarizes the conditions as (1) symptoms of gastrointestinal irritation characterized by the redness and the hemorrhages; (2) nervous symptoms (convulsions and paralysis); (3) albuminuria, and (4) glycosuria, and he warns not to give over 8 grams of the extract as a maximum dose. Hare gives the dosage of the extract as 4 to 8 grams (about 1 to 2 fluid drams). Male fern should be followed in three to four hours by a calomel purge, aided by a saline, but not by castor or other oils, as the latter increase the danger of absorption, hence of poisoning.

Calomel. — While thymol is at present considered the most reliable remedy in hookworm disease, indications are not lacking that considerable good may be accomplished in the American form of the disease by the use of calomel. This drug will not, however, be followed by such prompt and satisfactory results as will thymol.

General Treatment.

The administration of thymol has for its object the expulsion of the parasite, hence the removal of the cause of the disease. This should be supplemented by efforts to build up the depleted system by means of good nourishing food, iron, etc. It is well to give the iron daily, except on the days that thymol is taken. Sandwith, 1894, p. 25, claims that the blood was most benefitted by a daily supply of 1.5 grams (23 grains) of the sulphate of iron in water in three equal doses.

PROGNOSIS.

Among physicians I found the view rather prevalent that the prognosis was poor for children who presented severe cases of the disease. This view is probably due to the fact that the cause of the trouble was not understood, hence treatment was not directed to removing the cause.

The proposition now before us is, first, to remove the intestinal parasites, and second, to build up the patients.

To accomplish the first desideratum may require some patience, but efforts will eventually be successful. The second point may also be carried out, unless, of course, the patient is too far gone at the time of treatment to recover from the effects of the disease.

In not all cases can it be expected that a dwarfed, emaciated, and stupid child can be immediately placed upon the same physical and mental basis as his brothers, but even such cases can be greatly improved.

LETHALITY OF HOOKWORM DISEASE.

I know of no extensive and exact statistics regarding the lethality of uncinariasis, and traveling as rapidly as I did, it was impossible to establish any definite facts from personal observation, since it was the exception that I saw any case more than once. Furthermore, owing to the fact that many light cases will escape attention, any lethality percentages published will probably be above the actual figures.

I doubt whether sufficient data are at hand to justify even approximate statements regarding the lethality of hookworm disease. That numerous cases, not properly treated, terminate fatally can not be doubted. Still, it is remarkable how low a person may be with hookworm disease and still live.

Among physicians I met with the most contradictory ideas on this subject. Several excellent observers maintained that all severe cases which reached an edematous condition were invariably fatal; equally keen observers doubted whether this disease was frequently the actual cause of death; the view was quite general that patients suffering from medium or severe attacks of this malady very seldom lived through even medium or light attacks of such diseases as typhoid fever, or pneumonia, and that severe attacks of malaria were frequently fatal; also that they were very uncertain patients in confinement.

In my own observations, several points seemed quite significant. In the first place, the large number of cases of long standing found in so many families did not indicate a high lethality. Further, several adults were seen who had formerly unquestionably presented severe infections, but who are now in a fairly good state of health. In one family with nine children living, most of whom clearly presented light, medium, or severe infections, there was a history of death of nine other children, but satisfactory answers as to the cause of these deaths were not obtained. That some of the children had died of uncinariasis is very probable. On the other hand, families were seen with eight to ten children, all or nearly all in an anemic condition, some with clear medium to severe cases of uncinariasis, yet without history of any fatal case in the family. I have heard of localities in Central America (but have not investigated them personally) where it is said that a disease, which from its description I believe to be uncinariasis, probably due to Uncinaria americana, causes an immense mortality among the children.

Taken all in all, the data obtained did not convince me that uncinariasis, *per se*, is so fatal a disease in man as is generally supposed. On the other hand, I obtained the impression that while very severe cases are not infrequently fatal, the general effects of the malady upon the system are of greater and more far-reaching importance than the lethality of the infection itself. In other words, if uncinariasis were eliminated, the lethality of other diseases, such as pneumonia, typhoid fever, malaria, and also of child birth, would be decreased, and in the sand and mixed sand and clay areas this decrease would not be an insignificant factor.

One physician stated to me that he was confident that he had lost several hundred patients from uncinariasis within the past forty years.

Sandwith, 1894, pp. 16-17, states that of the patients nominally under his care, 89.5 per cent were cured or greatly improved, 2.5 per cent were unrelieved, and 8 per cent died.

"Most of the fatal cases had loud anemic murmurs, marked subnormal temperature, slight general edema, albuminuria, and great mental weakness.

"The actual cause of death was exhaustion, from utter absence of rallying power. It is difficult to believe that the pathological effects are induced only by hemorrhage from the daily suction of scores or even hundreds of worms. In addition to the loss of blood, we have general thickening and degeneration of the duodenum and jejunum, and consequent interference with normal digestion; then nonassimilation, and eventually a process of slow starvation. It is also worthy of consideration that there may be in prolonged cases some self-poisoning from the great number of bites in the walls of the intestines containing ill-digested and perhaps decomposing food."

POST-MORTEM APPEARANCES.

I did not have occasion to make any autopsies during the trip; hence I am unable to present any original observations in this line. For careful accounts of single cases of autopsies, the reader is referred in American literature to Strong, 1901; Yates, 1901; Claytor, 1902a, and Capps, 1903a.

Sandwith's, 1894, pp. 17-20, summary of 26 autopsies is not accessible to many American physicians; hence it is quoted here in full.

"Some of the earlier autopsies were made by myself, the later ones by Dr. Kaufmann. The muscles were in one case described as of normal color, but in all others they were very pale. There was usually a great absence of subcutaneous fat. The lungs were very pale and edematous in all cases, and all the organs were extremely bloodless.

"In one case there was noted edema of glottis. The heart was found to be hypertrophied ten times [in 10 cases], and was very small twice, generally pale brown in color, and on three occasions there were marked changes in the mitral valve. The most common abnormality in the liver was a brownish-yellow fatty appearance. In one case there were several abscesses, and the liver weighed 3.700 grams, and in one patient there was well-marked jaundice.

"The spleen was enlarged in one-third of the post mortems. The kidneys invariably showed some change, though this was often much more marked in one kidney than the other. They were very pale in 24 patients, 3 of whom had several small cysts. Of the remaining 2 patients 1 had granular kidneys and the other had cysts, but the kidneys were of normal color.

"The brain was always exceptionally white, and in one case there was recent apoplexy.

"The small intestines showed, of course, the most important changes. As a rule, there were many hemorrhages and bites in the jejunum and ileum, but in one of the cases where the bites were carefully counted there were only 6 in the jejunum and ileum, and no worms were found. In another case, however, there were 575 bites in the small intestine, besides 250 anchylostoma. In yet another there were 100 bites, the farthest of which was 4.5 meters from the pylorus. In only two cases was there much liquid blood in the intestine.

"I have not observed the constant changes in the mucous membrane of the stomach described by Giles. The great variability in the number of anchylostoma found at the autopsies is interesting. In seven cases, all treated by thymol during life, no worms could be found. In an eighth case, also treated by thymol, but insufficiently, there were 10 worms. The remaining 18 cases had not had the advantage of thymol. Six of them, nevertheless, were found to have less than 10 worms, and in two of these corpses only 1 worm was found in each jejunum. Three other cases numbered 20, 40 and 50 worms, but the remaining 9 had numbers varying from 170 to 381, terminating with the maximum record of 863. On that occasion the autopsy was made seven hours after death, and the worms were scattered from a point 1 inch beyond the pylorus for the length of 3 meters; 217 of the 863 were attached still to the intestine and were surrounded by much bloody mucus, while 646 were lying free in the intestine; 16 of the latter were still alive, and one couple were in copulation.

"Next the position of the worms deserves notice. It was quite the exception to find any parasites in the duodenum. Can it be that when the duodenum becomes thickened and riddled, as it were, with the ravages of former generations, the anchylostomum fastens by preference on to the jejunum? Some such cause as this suggestion of gradually shifting the pasture is required to explain the interesting fact that it is not the most advanced cases of anemia which will always yield the largest quantity of worms. In such cases the parasite must not only have to burrow extra deep, but the blood when reached is, of course, deficient in quantity. Or is it that the half-starved worms are dislodged by repeated attacks of diarrhea? The furthest feeding ground that I have seen was 6.30 meters from the pylorus, where there was a worm firmly attached. *a* But, as a rule, the attached worms are all within 2 meters of the pylorus, and have their heads and sometimes half their bodies buried in the mucous membrane. It is often impossible to dislodge them by a strong stream of water, and they must then be pulled out by forceps.

"I examined about 50 cases to see the proportion of male to female worms, and found it 56 to 44 per cent. This is not in accordance with some of the authorities, who say that males are always more rare than females, and that males are less influenced than females by the action of expellent drugs."

PREVENTION OF HOOKWORM DISEASE.

In the prevention of diseases caused by animal parasites, we may, of course, attempt to attack the infectious agent in any stage of its life history. In connection with uncinariasis, three periods. in particular come into consideration, namely: 1. The adult worm in the intestine; 2 the egg in the feces, and 3 the infecting "encysted" stage of the larva.

1. Adult worm in the intestine; treatment.

The destruction of the adult worm in the intestine not only relieves the patient of an

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a "Dubini has only once seen the worm in the ileum. The nearest feeding ground seen by me was 24 centimeters from pylorus. In that case there were 100 worms attached and 281 detached, besides oxyurides."

important and (when present in large numbers) serious or even dangerous parasite, but it is also an important factor in preventing the spread of the disease to other people. Accordingly, treatment should be instituted even if the eggs found in the feces are so few in number as to indicate only a light infection.

Not infrequently the opinion is expressed that the infection with parasites found in a given patient is so light that treatment is hardly necessary. Such a view, however, is often very shortsighted, for it is not infrequently light infections occurring at unfavorable seasons and under unfavorable conditions that furnish the material for heavy infections at more favorable times. No Uncinaria infection in man is too light to be worthy of treatment, for each adult female may lay eggs; hence the destruction of these females means the decrease of scores of free infectious larvæ.

Not all cases of the malady can be recognized without the microscope; hence many people will unconsciously spread the disease-producing agent. Furthermore, many cases which might be recognized by symptoms will not come under medical treatment, so that they, too, will spread the infectious material. It is clear, therefore, that for satisfactory results in prevention we must adopt some method in addition to the treatment.

2. *Eggs in the feces; control and destruction*

It is in the feces that we find the potentially infectious material in the most concentrated form. After the eggs develop into embryos the latter may leave the fecal matter and be distributed in the sand or in the water. Accordingly, it is much easier to control or destroy a given amount of infectious matter while it is concentrated in the feces than it is later when it is spread over a larger area. Here, in fact, we have the key to the prevention of uncinariasis. Proper disposal of the fecal discharges will make the spread of uncinariasis impossible. As such proper disposal I will suggest: Properly built privies when sewerage is lacking; use of such outhouses after construction; cleaning the same at regular intervals, and burial, burning, disinfection, or drying of the feces.

3. *The Infecting "encysted" stage of the Larva.*

Disinfection of premises.—A chemical disinfection of premises to kill the free stages of eggs, embryos, and larvæ of the parasite would hardly be practicable, but heat, dryness, and cold all result in killing these organisms.

About twenty-four to forty-eight hours of freezing temperature kills the free infection, hence after any cold weather of this kind in winter it may be assumed that the premises are disinfected.

After any especially dry weather, most if not all the free infection (except such as exists in places not affected by the dryness) is killed, so that exposed portions of premises may be assumed to be practically disinfected.

Spraying with burning oil, as practiced by the Massachusetts Gypsy Moth Commission, will effectually disinfect any area. If a spray nozzle or "cyclone burner" is not at hand, the ground around the house could be strewn with straw or brush and set afire [due precaution being taken not to burn the house], thus thoroughly disinfecting the premises.

Drinking water—To tell the average farm hand or miner that he should always "boil or filter" the water before drinking it, is academically a step toward preventing infection with uncinariasis. Practically, however, it is a step toward throwing away whatever influence we may happen to have with him. Theoretically, we should teach this simple hygienic precaution to all families, both in the city and in the country. Practically, we are in many cases weakening our position by insisting too generally upon this point.

While, therefore, we may warn people to boil or filter their drinking water in order to prevent the introduction of the infecting agent of uncinariasis or of other diseases, provided we see any chance of their following the advice [in regard to which we ourselves, except in times of epidemics, are very inconsistent], we will, I believe, usually weaken our influence with the poorer classes in mentioning a precaution which the average farm hand naturally looks on as absurd. It is much more important to urge him to locate his privy some distance from the well. That is a proposition he can appreciate; the necessity for boiling or filtering drinking water is usually beyond his mental horizon.

Clean hands.—An important point in connection with preventing the ingestion of the infectious agent of uncinariasis is that the hands and finger nails should be kept clean. I am inclined, however, to take an ultrapractical view of cleanliness versus dirt in connection with country houses, and to first see that the inevitable dirt shall be clean. This can be accomplished if we can succeed in having properly constructed latrines, built at proper distance from the wells and houses, if the children be taught to use them, and if the parents be taught the necessity for cleaning them.

These, in my opinion, are the first steps to be taken, and far outweigh all such considerations as boiling and filtering drinking water or keeping the hands clean.

Wearing shoes.—Wearing shoes during wet weather and washing the feet frequently will prevent the cutaneous infection and will protect to a great extent against ground itch. It can hardly be expected, however, that the poorer children in country districts will adopt this precaution to any extent.

COMMON INTERPRETATION OF HOOKWORM DISEASE.

Upon several former occasions I have referred to "cases of anemia of obscure origin" as possibly due to uncinariasis. In a recent paper [Stiles, 1902*b*, pp. 207-208], I referred to "dirt-eating" as being possibly connected with uncinariasis; it was also intimated 1902*b*, p. 215, upon authority of Dr. Kirby-Smith, that in Mississippi uncinariasis is confused with malaria; Harris, 1902, also points out that much of the anemia attributed to malaria and dirt-eating is probably due to hookworm disease.

At present I am able to make more specific statements than formerly. The condition which should be attributed to light infections of uncinariasis is usually interpreted as due to malaria or diarrhea; medium cases are usually interpreted as an anemia due to malaria combined with "improper diet" or "insufficient nourishment;" severe cases are usually attributed to "malarial cachexia," "dirt-eating," "resin-chewing," "heart disease," "dropsy," "general debility," "pernicious anemia," and "lack of proper nourishment." Such at least are the common diagnoses which have been made by the attending physicians in the cases which I have interpreted as light, medium, or severe infections with Uncinaria americana.

ECONOMIC IMPORTANCE OF HOOKWORM DISEASE.

Malaria is admittedly one of the most important diseases when viewed from an economic standpoint. In general, uncinariasis is, in the South, fully as important as malaria, and in some respects it is of even greater importance.

Take a given farming area in the sand district with an infection of uncinariasis, and assume that 100 farm hands are employed. It is not an exaggeration to say that these 100 people are not doing the work of 80 or 90 average hands. Thus there is a distinct loss of 10 to 20 per cent in the wages and a corresponding loss in the crop returns. In some places I should estimate the loss at even a higher percentage, say an average of 25 per cent, while in several families which I have examined I should say that uncinariasis is reducing the laboring capacity, hence the productiveness, of the family to as low as 30 to 40 per cent, thus entailing a loss of 60 to 70 per cent.

Nor are the losses in wages and in the laboring capacity, and the decrease of productiveness of the family, hence of the farm, and finally of the county and State, the only economic considerations involved. Cases are not unknown where families have sold, moved, or destroyed their homes, or were about to do so, because of the existence of this disease and because of the belief that it might be due to the locality in which they lived.

Again, it is almost a common experience to be told by the father of a family that he spends for medicine all he earns, in the hope of ridding his children of this malady. Add to this the physicians' bills, the loss by death and funeral expenses, etc., and it is seen that this infection is keeping more than one family in absolute poverty.

Nor should we forget that uncinariasis has its important bearing upon the mental as well as upon the physical and financial development of the poorer white people. As already stated, children infected with this malady are often undeveloped mentally; frequently they have a reputation in the schools, in the neighborhood, and in their own family, of being "stupid," or "dull," or "backward" in their studies, etc. It has already been mentioned that children suffering with this disease are frequently kept home from school because of their tendency to become edematous when they sit still for any length of time. When we now recall that these conditions coincide especially with the educational period, it should not seem strange that uncinariasis has a marked influence upon the general intellectual condition of the districts in which it occurs.

Considering the subject in the light of all I saw on the trip, and taking what I believe to be a conservative view of the subject, I find it exceedingly difficult to escape the conclusion that in uncinariasis, caused by Uncinaria americana, we have a pathologic basis as one of the most important factors in the inferior mental, physical, and financial condition of the poorer classes of the white population of the rural sand and piney wood districts which I visited. This sounds like an extreme statement, but it is based upon extreme facts.

By this position I do not intend to assert that uncinariasis is the only factor which comes into consideration. The warm climate and the monotonous diet, and probably also the excessive use of tobacco in some cases, are not without influence. Still, with uncinariasis as it exists to-day, these people are suffering from a handicap in life which practically removes them from a fair chance in competition. If the uncinariasis is removed they will be placed in a more favorable condition both subjectively and objectively. With the present prevalence of uncinariasis their lack of ambition is perfectly natural; remove the disease and they can develop ambition.

On the other hand, if we were to select the strongest people in the country and place them in the conditions under which these patients are now living it would be only a generation or two before even a race of athletes would be in the same condition as the persons under discussion.

The conditions described are familiar to persons who have visited the rural sand districts. But they have existed for so many years that many of us to-day look upon them as natural, hence they do not attract the consideration to which they are entitled.

POINTS OF SPECIAL INTEREST TO NORTH CAROLINA PHYSICIANS.

Referring especially to conditions in North Carolina, I would draw your attention to two matters in particular:

The Box Privy.

The box privies which I have seen in this part of the country are more or less characteristic for the rural districts of the Southern Atlantic States, and have two great faults in their construction which are especially favorable to the spread of uncinariasis. The first point is the absence of any excavation, box, or barrel, under the seat. The second point is that the privy is often open in back so that chickens, dogs, and hogs have easy access to the excreta which they scatter around the premises. These two great faults of construction should be immediately remedied, for from the life-history of the parasite you have seen that a proper disposal of human excreta is the great secret in preventing the spread of this disease. I, therefore, wish to impress upon the practitioners and the local health officers of this State the necessity for educating the people to construct a better class of privy and to more carefully dispose of the fecal discharges.

HOOKWORM DISEASE IN THE COTTON MILLS.

The second point to which I would especially direct your attention is the presence of hookworm disease in the Southern cotton mills.

In discussing the cotton mills, I am well aware of the fact that I am touching upon a subject which has caused no small amount of discussion and agitation. I am also aware of the fact that some people, in referring to my views on this subject, have accused me of being a Yankee who has come South with a prejudiced mind, and that others have accused me of having lived so long in the South that I am blinded by my Southern sympathies.

Well, gentlemen, I am proud of the fact that I am a Yankee from Yankeeville; and I am equally proud of the fact that I have lived among Southerners long enough to be able to view Southern problems from the Southern standpoint. But such matters have nothing whatever to do with the subject at hand, and it is time to stop this sensational twaddle about sectionalism and to study this mill problem, not from a prejudiced point of view, but from the objective grounds of sanitary science and public medicine. It is only from this standpoint that I intend to discuss the subject.

We must face the fact squarely and fairly that there is a tremendous amount of anemia among the mill hands in the South, and that the average health and strength of many of these workers are below par. Various explanations, which I will not discuss now, have been given to account for this condition. I will not charge that these explanations are misrepresentations, but I do maintain that some of them are misinterpretations and that certain of these misinterpretations involve an unfortunate and regrettable injustice to the Southern mill operators. I do not wish to be interpreted as casting any reflections upon the many people who are supporting any humane and well-intended movements looking to a bettering of the conditions of the mill hands, especially of the minors; at the same time I find it difficult to escape the view that all persons who are sincere in such movements should welcome any medical facts which will tend to remove some of the conditions which have formed the basis of at least part of the agitation.

The questions arise: What is the cause of this wide-spread anemia, and why are so many of the "cotton mill children" stunted in their development? My answer to these questions does not presume to explain everything, but it certainly does throw a new light upon numerous cases which have heretofore been misunderstood.

We have here in the South a wide-spread malady known as hookworm disease. This, as I have already shown you, is particularly common and especially severe among the poorer whites. Now, Southern mill operators and Southern physicians and lawyers have informed me that it is particularly from the poorer white population, especially of the suburban and rural districts, that the cotton mill labor is recruited. Under these circumstances, it need not be surprising if numerous cases of anemia and stunted growth, due to hookworm disease, are found among the mill hands.

I have not visited all of the cotton mills, but in those which I have visited I have found many cases of this disease. I have made no systematic and statistical study to determine the exact proportion of the hands that are affected, but in two days' time I found about 25 or 30 cases of the malady in three mills which I visited in Georgia; Dr. Harrison and I visited one mill in Alabama and we saw a number of probable cases, and Dr. Harrison has since informed me that he has examined several of these suspected cases and has positively demonstrated that they were suffering from this disease. In North Carolina, I have not been inside of any mills, but I have seen some of the so-called "cotton mill children," and in them I have recognized the typical picture of uncinariasis.

Gentlemen, since hookworm disease is so common among the poorer whites; since it is admittedly from this class of people that the cotton mill labor is recruited; since I have actually found quite a number of cases of this disease in 3 cotton mills in Georgia; since Dr. Harrison and I have found suspects; and Dr. Harrison has demonstrated the disease in a cotton mill in Alabama; since I have seen "suspects" among the mill hands in North Carolina; finally, since the anemic condition and the stunted growth alleged and admitted to be so common among the mill hands in other localities, agree with the classical symptoms of hookworm disease; I ask you, as medical men, is it not a logical deduction that this disease is an important factor in explaining certain of the conditions which some well intending and humane people have heretofore attributed to the, shall I say "hard-heartedness" of the mill operators?

From a zoological standpoint, reasoning from faunistic as well as symptomatic analogy, I maintain that this deduction is justified.

Now, are the mill operators responsible for this condition? Gentlemen, the Southern mill operators whom I have had the honor of meeting, are made out of the same kind of protoplasm and are imbued with the same ideas of humanity as are the other men I know. I have found them not only disposed but anxious to better the conditions of their hands, and I have found that they welcome any fair investigation of existing conditions and are willing to consider any reasonable proposition. The presumption, therefore, is that they are not knowingly responsible for the poor health of so many of the mill hands. And from my studies thus far, I do not believe that they are even unknowingly responsible for it. On the contrary, the mill hands have (in the cases I have investigated) become infected with this disease before they entered the mills, and my studies do not indicate that the conditions in the mills have resulted in any extensive spread of the infection.

Much has been said and written about the "company houses." I have heard them described as uncomfortable, unsanitary, etc. I had occasion to examine a number of these houses, and, so far as I can see, they are better built, more comfortable, and in far better sanitary condition than are the houses in which the poorer whites of the rural districts are accustomed to live.

Just a word about child labor. Do not misunderstand me as being a champion of unrestricted child labor. I must state, however, that the minors whom I have seen in the mills are more active, and are not working any harder, than the minors I have seen on the sand farms. The former are certainly earning more money than the latter, and in not a few cases have I convinced myself that minors coming to the mills from the country have come infected with hookworm disease, and have actually improved in condition after entering the mills.

In this discussion I do not pretend to solve all the questions connected with child labor, etc., etc., but I do believe that I have placed certain phases of the cotton mill agitation in a new light, and that this new explanation of certain conditions is not one which can be ignored.

Finally, gentlemen, let me remind you that the conditions which I have mentioned can be easily corrected. By expulsion of the hookworms, those cotton mill hands who are infected can be placed in a physical condition which will enable them to recover from their anemia, and the minors who are infected can be given a chance to grow into healthy men and women.

In conclusion, Mr. President and gentlemen, I wish to again thank you for the cordial reception which you have given to me.

BIBLIOGRAPHY.

The bibliographic citations in this paper follow the references in Bull. 10, Hyg. Lab., U. S. Pub. Health and Mar.-Hosp. Serv., Wash., and Stiles & Hassall, Index-catalogue of Medical and Veterinary Zoology, Bull. 39, Bureau Animal Industry, U. S. Dept. Agriculture, Washington.

The Doctor's Fee.

The call-bell rung, the Doctor swung
The door on its creaking hinge,
'Who's here,' he asked, and from the gloom
Like the darksome pit of some eerie tomb,
A little girl with a lurking tinge
Of death replied.

"O, sir, my sissy's sick, and we
Do not know what to do;
For papa's away with the fisher boat,
And mama's down with a swollen throat
And I came alone, alone all through
The sodden night.

"We knows we owe you many a due,
But we is poor you know,
And with Bobbie's shoes and Maggie's dress
And rents and wood and all the rest,
We scarcely keep the wolf from the do' "
She quaintly said.

"But mama said we got our bread
From One who lives above the sun,
Who fed the ravens, makes the stars
Shine down on earth, and opens bars
Of hope to all who have begun
To trust Him here."

"She said you'd come, if I would run
And tell you that poor Bessie's sick,
And coughs and coughs her life away,
And weaker grows each waning day,
Til with fev'rish flush and breathing thick
Her life's near gone."

"So please, dear Doctor, come," she said,
"Four miles I've come," and then she fled
Out in the night with its chilling blast,
Far out from sight, the town lights past,
Her little form ashivering sped
Into the night.

The good man paused and thought awhile,
As he peered in the inky blank;
He thought of his couch and he thought of his cheer,
He thought of his comfort always dear
To those whose work lies in the dank
Of a stormy life.

He knew the road was rough and drear,
With many a stumbling stone,
He knew his ledger showed many a debt
Which had been made many a wet
And stormy day, when all alone
He visiting went.

But his great soul rose, and high above
He heard his Master's voice,
Saying, Go thou then, and unto those
Who lend their lives these earthly throes
To heal, the same of sweetest Heav'nly joys
Shall taste forever more.

He gathered himself in his ulster wide
And he knocked at his groomsman's bode,
And his heart arose like the swelling note
Of an organ grand with its golden throat,
As he thought that he, from a heavy load
Might give sweet rest.

For the rich and poor must suffer 'like,
And our duty cannot fail,
Whether our call to a palace grand,
Or to the abode of the poorest man,
In the name of Christ, humanity's wail
Must meet our ear.

So the Doctor rode, the great horse strode
Far out in the darksome night,
And the thoughts he had, as the mile-posts sped,
Were sweet as the breath from overhead,
Of the angels, who from clouds of light
Looked from above.

The goal was reached, the wife beseeched
The good man with her tears
To save the child, whose whispering breath,
Like autumn leaves on the brownish heath
But faintly told she had no fears
Of death beyond.

The workman came, but all in vain,
The sands of time had ceased,
An angel band, from a far off land,
Around the little bed did stand,
And with a groan, and then with peace,
The little one was gone.

Then the Doctor turned and faced him home
And the lightnings flashed and glared,
And the heavens split, the thunders shook
And in its rent that angel took
Her flight into the skies.

A well done deed was that doctor's fee,
And a soul with a gilt burnt crown;
For oft in the night the patter of drops
And the swirl of the wind 'round the chimney tops
And the soft drawn breath of his own in sleep,
Whom God had given into his keep,
Brings a halo of light around his brow
Like to an angel's smile.

—*Thos. S. McMullan.*

Laryngeal Diphtheria.*

By J. L. Egerton, M. D., Hendersonville, N. C.

The mucous membrane of the larynx, when inflamed, may have upon its surface a pellicle which is called a pseudo-membrane. This membrane is composed chiefly of fibrin, pus and necrotic epithelium, and may include necrotic sub-mucous tissue.

Pseudo membranous inflammations may arise from trauma, from the germ of diphtheria, and by many it is believed that it may arise from a cause apart from either; this form is termed a croupous inflammation. When of traumatic origin it is most generally the result of the inhalation of steam, or irritating vapors, which, by destroying the protecting epithelium of the mucous membrane, permits the transudation of serum and white blood cells, thus forming a pseudo membrane.

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*Read before the Buncombe County Medical Society, Asheville, N. C., March 2nd, 1903.

The history of these cases will usually be sufficient to clear up the diagnosis. The duality of membranous croup and laryngeal diphtheria has for many years been contended for by some, and denied by others equally eminent in our profession.

In the present state of the discussion, it would be improper for me to attempt any dogmatic assertions on the points at issue.

Among the reasons given by those who still insist upon this duality, may be mentioned:

1st. There are positive differences in the morbid processes present.

2nd. That croup is a disease peculiar to childhood, commencing in the larynx, and although it may pass down into the trachea, never passes upwards into the pharynx.

3rd. That it is not attended with enlargement of the cervical glands.

4th. That it is a local, noncontagious disease, of a sthemic inflammatory type, without any special alteration of the blood crasis.

5th. That it does not present the complications of diphtheria, such as albuminuria, pseudo membranous exudations on abraded surfaces, nor its characteristic paralytic sequelœ. The limitations of this paper require that these different topics shall be discussed briefly.

1st. It is now generally conceded that there is but little, if any, essential difference between primary membranous croup and that of laryngeal diphtheria, and that this difference is in degree only, and cannot be made the basis of a radical division of the two diseases.

2nd. It is true that the primary sporadic form of membranous croup occurs more exclusively in children than does the more fully developed forms of diphtheria. We should bear in mind, however, that in childhood there is a special tendency to acute affections of the larynx, and that a comparatively trifling amount of membranous exudation in the larynx of a child will produce grave symptoms of obstruction.

3rd. Much stress is laid on the fact that in croup the cervical lymphatic glands are not usually affected. This is explained when we remember that the lymphatics of the larynx and trachea communicate only with the lymphatic gland below the greater horn of the hyoid bone, and with the small glands at the side of the trachea. When, however, the pharynx is involved, the close connection between its rich lymphatic supply and the numerous glands below the angle of the jaw, makes enlargement of these glands a prominent symptom from an early date, Many other features which distinguishes diphtheria in the pharynx are also wanting in this disease.

4th. That croup is a local, noncontagious inflammatory disease of a sthemic type; while diphtheria is a specific zymotic disease of an adynamic type. It must be admitted that there is a wide difference between the constitutional symptoms of the grave, septic form of diphtheria and those of croup. On the other hand, we see cases of diphtheria where the symptoms are no more adynamic in character than are those of croup.

5th. The absence of the complications and sequelœ is largely due, as previously stated, to the slow tendency to secondary systemic infection; the relatively rapid course of the disease, often producing death from local causes, before the constitutional symptoms, resulting from the absorption of the toxins, have developed.

Absorption by the mucous membrane of the larynx is slow and feeble, as compared to that which takes place from the pharynx, hence the glandular enlargements, albuminuria, &c., is generally wanting. Also in the cases which come to an autopsy, the parenchymatous degeneration in the kidneys and other organs are seldom found; but, instead, only such lesions are found as are connected with the primary laryngeal disease.

Dr. Bosworth is perhaps the most prominent author who still claims that these diseases are separate and distinct, and yet, in his latest work, he admits that from a pathological standpoint it is very difficult to establish the duality theory, as they so often merge the one into the other in such a way that it is impossible to establish a dividing line. Bacteriological researches made since 1890 have yielded results sufficiently uniform to warrant us in considering all pseudo-membranous inflammations, beginning in the larynx and not of traumatic origin, as diphtheria.

In 1894, in eighty per cent. of all the cases of membranous croup reported to the board of health of the city of New York, the Lœffler bacillus was found. With a very large proportion of all the cases of membranous laryngitis the Klebs-Lœffler bacillus is associated. In a small per cent. other organisms, particularly the streptococcus, are found. In 286 cases reported recently in which the disease was confined to the larynx, in 229 the Klebs-Lœffler bacillus was found. In 57 they were not found, but in 17 of these the cultures were unsatisfactory. Dr. Beaman Douglass, of New York, says that "it is possible to have an exudate in the larynx which forms a membrane, and which may not be caused by the diphtheria bacillus. Such a membrane may be formed by the pneumococcus or from a fibrinous laryngitis, but that these cases are so very unusual that it is safe to consider every case of membranous croup as diphtheria and treat them as such."

Our differential diagnosis must be made from retrophoryngeal abscess, œdema of the larynx, acute catarrhal laryngitis, and broncho-pneumonia. There should be but little, if any, difficulty in making a diagnosis from any, except cases of acute catarrhal laryngitis. I shall, therefore, confine myself to an enumeration of a few of the most prominent distinguishing symptoms.

The onset of the two diseases is often very similar, and for several hours we may be in doubt as to the particular disease with which we are contending. Owing to the many difficulties with which we must contend in making laryngoscopic examinations in children, this invaluable aid to our diagnosis in adults is seldom successfully used. We should never fail to use the laryngoscope whenever it can be done. All these cases should be looked upon with apprehension in the beginning.

In the acute catarrhal laryngitis the onset is usually more abrupt. The dyspnoea is mainly paroxysmal, with daily remissions and nightly exacerbations, and is chiefly with inspiration. The constitutional symptoms are generally more marked with higher temperature. The voice although hoarse and metallic is not usually lost, while with the pseudo-membranous variety the reverse is the rule. These symptoms are more or less constant, steadily and rapidly increasing, and are present with both inspiration and expiration. Doubtless the chief characteristic of the disease is the progressive, unremitting laryngeal stenosis. The inhalation of chloroform will materially aid us in our diagnosis in difficult cases, the paroxysms in the catarrhal form being controlled by it, while in the membranous there will be but little if any change. We should remember, however, that slight remissions of the symptoms do not always mean that we are dealing with a catarrhal laryngitis. We must expect variations in the symptoms from the mildest to the most severe types. In the catarrhal, as well as in the membranous, there may be extensive and distressing dyspnœa, cyanosis, and even death. There are many other distinguishing clinical features, &c., which might be mentioned.

Bacteriological examinations are exceedingly important, and should be made when possible. While this method of diagnosis is conceded to be more exact than the clinical, yet I do not think that it should be relied upon to the exclusion of the clinical. There is a prevailing tendency to rely upon bacteriological evidences to the almost entire exclusion of the clinical, and this fact is to be greatly deprecated. These means of diagnosis are mutually complimentary, the one to the other, and should be so regarded. The clinical manifestations should be observed with the same care as they were before bacteriology was at our command. More especially is this true when we remember that a large number of the profession are compelled by circumstances to rely solely upon the clinical manifestations. Those of you who have studied these methods closely, side by side, will agree with me that in a vast majority of the cases an accurate diagnosis can be made by the clinical symptoms alone within the first twenty-four hours.

The prognosis will depend upon the age of the patient, and their vital powers of resistance; the character and extent of the disease; the time we are called, whether early or late in the disease; and the treatment employed. The issue of every case of pseudo-membranous laryngitis is doubtful. There is no disease in which it is more difficult to forecast the outcome than in this form of diphtheria. So many possibilities exist that even those cases which appear to be very mild should be carefully watched. Indeed, it is the mild cases which are so often misleading.

The treatment should be prophylactic, local and constitutional.

The prophylactic embraces quarantine, the adoption of sanitary surroundings, and immunizing doses of anti-dephtheretic serum. All cases should be promptly isolated.

The chief therapeutic indication in the local treatment is to disinfect the seat of the disease, and endeaver to produce absorption of the membrane. Many practitioners have faith in accomplishing this by sprays, inhalation of vapors from solvents of membrane, and by topical applications to the membrane. There are many good spray solutions, and whenever possible they should be used. I usually prefer either peroxide of hydrogen in strength varying from 1 to 3 to 1 to 5 parts, or Resarcin in 5 per cent. solution. We will often get an amelioration of the symptoms by these methods of treatment, but they should not be relied upon alone.

The constitutional treatment which is

now in high favor, and which is unquestionably more successful than any which has ever been adopted, is the administration of anti-diphtheretic serum. It is unnecessary for me to go into the history of the researches leading to our present knowledge concerning this mode of treatment, any more than to refer briefly, as a matter of duty, to the laudable work of its promoters, Pastuer, Behring, and others, to whom the world is indebted for the beneficial results observed around us. With anti-toxin in our armamentarium this dread disease will be robbed of most of its virulence, and in no other form of diphtheria do we see the beneficial results from anti-toxin more marked. To Behring, I believe, belongs the most of the credit of the discovery that the blood serum of animals which have been rendered immune against diphtheria by inoculation with purc cultures of the Lœffler-bacillus, contains an active principal which neutralizes the toxic agent existing in diphtheria.

In 1890 he published his experiments, and by August, 1894, the beneficial results of the serum were sufficiently well established to warrant the placing of Behring's serum on sale. The serum is now manufactured upon a large scale by reliable firms in this country, and there need be no difficulty in obtaining it fresh at any time. Since 1895 this method of treatment has been thoroughly tested, and the results have been most gratifying. A sufficient quantity to neutraiize the diphtheria toxins must be administered. The doctor who waits until his patient has grown alarmingly worse, and then administers small doses, will most likely be disappointed with the results obtained. The number of units to be administered must vary with the individual case; an average dose in laryngeal cases of moderate severity ranging from 1000 to 1500 units for a child under 1 year of age. In older children from 1500 to 2000—or even 3000 units should be used. Should there be no amelioration of the symptoms in from 12 to 18 hours, the dose to be repeated, and, if required, a third or even a fourth dose should be given.

In cases of persistent severity in older children, and in adults, it is often beneficial to give between the doses of anti-toxine a hypodermic injection of the hydrochlorate of quinine, the dose ranging from 3 to 5 grains. Administered in this way it is claimed by some to be synergistic to the serum. The various complications must be met with appropriate remedies. It is well at the outset to administer according to the condition of your patient either a good sized dose, or several smaller doses, of calomel, for the purpose of evacuating the bowels and obtaining the action of the mercury on the glandular apparatus. I consider this good routine practice. The diet should consist of nutritious fluids throughout the course of the disease. The strength must be sustained, and any flagging on the part of the heart counteracted with digitallis, strychnia, alcohol, or other appropriate remedies. Alcohol is, in my opinion, one of the most reliable remedies with which to counteract the effects of the disease upon the heart and nerve centers. Care should be taken, however, not to increase the doses too rapidly, lest a tolerance to the alcohol be gained by the system at a time when its impression upon the nerve centers is most needed. The amount to be given should therefore be regulated with precission. In critical cases it will be better to use rectified spirits, as the dose can be more accurately gauged. During convalescence all sudden efforts on the part of the patient should be strictly prohibited, as patients have been known to die from fatal syncope, even on the verge of recovery. Indeed, until this danger point has been passed, it is far safer to keep the patient in the recumbent posture. In a small proportion of our cases, however, we may find that despite our efforts to arrest the disease, the distressing dyspnœa, cyanosis, and other grave symptoms tell us in unmistakable language that our patient is rapidly approaching a fatal termination. Then, in such cases, our only remaining resource will consist either in opening the air passages, or the insertion of an intralaryngeal tube. Do not understand me to advocate waiting until our patient is practically morribund before resorting to surgical interference. In order that this method of treatment should be of practical value, it should be done before the vital forces have become too depressed by the persistent blood poisoning and defective oxygenation. That grave dangers are incurred by too long delayed operations, has been abundantly proven by clinical experience. Whether we resort to tracheotomy or intubation will depend largely upon the individual case and the skill of the operator. Opening the trachea is said to be one of the oldest procedures of surgical art. We are told, however, that Hippocrates practiced intubation at the beginning of the Christian era by means of sounds which he passed through the glottis. In 1858 Bouchut brought before the Academy of Medicine at Paris two observations upon a new method of treatment of croup by tubage of the larynx.

During the same year many celebrated surgeons practiced the same method; notably among them we find Lister and Horace Green dilating constrictions, and advocating that all forms of stenosis of the larynx were amenable to treatment by dilatation, by means of tubes passed through and held between the stenosed parts. In 1863 we find Marduel and Delvoe advocating this method of treatment for stenosis of the larynx; and later we find McKenzie, Turck, and numerous other famous laryngologists in Europe, and in our own country, Dr. O'Dwyer, studying the pathology and treatment of laryngeal stenosis.

The honor and credit of perfecting this mode of treatment belongs to O'Dwyer, who in reality made intubation a feasible, safe and successful treatment for diphtheria and other forms of laryngeal stenosis. This method of relief has steadily grown in usefulness until in a large majority of cases it has become very properly a substitute for tracheotomy and thyreotomy. It may be said that any condition of laryngeal stenosis calls for intubation, yet its greatest efficiency will be found in cases of diphtheretic laryngitis. Much of the success of this procedure will depend upon the selection of the proper sized tube, and the dexterity of the operator.

A Study of Salpingitis.*

By H. A. Royster, A. B., M. D., Raleigh, N. C., Professor of Gynecology, Medical Department University of North Carolina; Gynecologist to Rex Hospital; Surgeon-in-Charge of St. Agnes' Hospital; and William DeBerniere MacNider, M. D., Raleigh, N. C., Demonstrator of Clinical Pathology, Medical Department University of North Carolina; Pathologist to Rex Hospital.

One of the writers has been repeatedly impressed with the thought that due attention is not given by physicians generally to the clinical importance of inflammations of the Fallopian tubes and to the interesting pathology of this affection. There has seemed to be a widespread recognition and understanding of the diseases affecting the uterus and the ovary, both of which organs are possibly too often suspected without cause. It is true that uterine and ovarian diseases constitute a large proportion of female pelvic disorders; and yet it must be remembered that salpingitis is the product of the one and the forerunner of the other, always to be taken into account when either of them are or have been present. Indeed, there are strong anatomical reasons why salpingitis should be regarded with care and deserving concern. The tube is the narrowest portion of the channel from the external genitals to the ovary, and, when once invaded by inflammation throws it off with difficulty, even in its resolution becoming seriously damaged. Tubal infections are, therefore, more often overlooked and less amenable to timely treatment than are the same processes which attack the uterine canal.

A number of interesting cases occurring in our clinic the past winter suggested an investigation of the subject, founded on both pathological and clinical observation. We present nothing new or original, for the ground has already been covered by many others. Personal experience, however, may count for something in the estimate of these matters. Clinically, salpingitis may be divided into acute and chronic; pathologically, according to whether the infective agent be the streptococcus, the gonococcus, or the tubercle bacillus. We shall treat first the acute and chronic forms, caused respectively by the first two organisms in the majority of instances, and then the tubercular variety as a separate disease.

1. *Acute Salpingitis.*—Compared to the chronic form this is an infrequent disease. It usually results from a streptococcus invasion, which is the rarest of the three common infections of the Fallopian tube. Puerperal sepsis is responsible for most cases of acute salpingitis, and while a mixed infection may occur from the grafting of the gonococcus upon the primary condition, gonorrhœa seldom produces an acute inflammation of the tube. It must be remembered, however, that acute exacerbations of chronic salpingitis may occur at any time during the course of that disease. These are the so-called cases of pelvic peritonitis, cellulitis, etc., the pathologic basis of which is the infected tube, and unless this fact be kept in mind no success will come in the recognition and management of such conditions. The *inflammation* in acute salpingitis is confined first to the mucous membrane, but quickly involves the whole tube, which becomes thickened and friable, while drops of pus may exude from the fimbriated extremity. These changes are usually seen in the severe cases at autopsy, as operation is seldom performed in the acute stage. The milder cases may undergo resolution and either recover or become chronic.

The *symptoms* of acute salpingitis are, briefly, pelvic pain, tenderness over the lower abdomen and fever. Since these phenomena in the child-bed cases are more or less clouded by the accompanying inflammation of the uterus, bimanual examination is unsatisfactory. We are accustomed to pursue the following course of *treatment:* absolute rest in bed, the free use of saline purgatives, and a hot pelvic pack. This latter is done by enveloping the patient's lower abdomen and hips in a sheet wrung out of hot water and folded sc as to extend around the pelvis, reaching from the waist-line to the middle of the thighs. Opium is not used in any form unless absolutely necessary, and then codeine is employed hypodermatically. We place by far greater reliance upon the genital sedatives like viburnum in large doses. No operative interference is to be considered in an acute attack unless the condition progresses rapidly or abscess formation occurs. A detailed discussion of the surgical treatment of puerperal sepsis would fall beyond the limits of this paper; but it will be sufficient to remark in passing that if a patient with a localized abscess is in imminent peril and cannot stand a prolonged operation, it is better to evacuate the pus through a vaginal puncture and to do a radical removal later, if needed. Should the patient not be *in extremis*, it would be proper to open the abdomen, remove the diseased structures and drain, when necessary, through the vagina.

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* Read before the North Carolina Medical Society, Hot Springs, N. C., June 1903.

2. *Chronic Salpingitis.*—Chronic inflammation is the most common of all tubal affections, and is, in the vast majority of cases, gonorrheal in origin, beginning as a chronic process from the start, rarely resulting from an acute attack. Very mild cases may result from extension of a benign chronic endometritis. Here, as in acute salpingitis, the changes are first limited to the mucous membrane which becomes hyperemic; the folds are much increased by the inflammatory infiltrate and the tube is somewhat enlarged. These *changes* now extend to the muscular coat, the fibres of which are separated by the exudation. There is a marked proliferation of cells, finally resulting in the formation of fibrous tissue; also of connective tissue on the surface of the tube which unites it firmly to its peritoneal investment and increases the thickness of the peritoneum in this situation. As these changes progress, the cilia of the epithelial cells lining the lumen of the tube disappear, the cells undergo cloudy swelling and are shed. The muscular coat becomes distended and the peritoneal coat, besides being thickened, has formed on its free surface an exudate. Adhesions are now brought about between the tube and neighboring organs, as the uterus, ovary or broad ligament. These adhesions are found most often about the abdominal ostium, and the ostium may be closed by such a plastering-over process, preventing extension of the inflammatory products in the tube to the abdominal cavity.

In other cases when the inflammation reaches the muscular coat it becomes elongated and extends beyond the fimbriæ, which retract and become invaginated into the tube. This is the most frequent method by which the abdominal ostium is closed.

Now that the fimbriated end is sealed, the resulting changes depend upon one of two factors: 1. Whether the ostium uterinum, or isthmus, remains patulous; or, 2. Whether it closes. If it is patulous, then one of the following conditions will obtain: (*a*) The contents of the tube may pass into the uterine cavity, the inflammation subsiding; (*b*) The tube may remain much hypertrophied from the infiltrate; (*c*) The muscular coat may continue to thicken and the tube become elongated and tortuous. If the isthmus is closed, cystic distention of the tube takes place and there is formed a pyosalpinx, a hydrosalpinx, or a hematosalpinx, according to whether the contents be pus, serum or blood. The shape of the tube in *pyosalpinx*, which is the earliest of these three conditions, is characteristic. It is distended chiefly at its abdominal end and more on its upper than on its lower border, giving the appearance of a retort. After a time the virulence of the organisms in the tube becomes lowered from want of oxygen and suitable food, and the production of pus ceases. The solid constituents of the pus become deposited around the walls of the tube, leaving the serum, much of which is absorbed, and there results a *hydrosalpinx*. *Hematosalpinx* is a rare affection, and when found is generally the result of hemorrhage into the tube. Adhesions are often formed between the tube and ovary, surrounding the latter organ and giving to it a fibrous capsule. Degeneration of the ovary takes place, the fibrous wall is broken down and the ovary itself is infected. A direct communication is established between the lumen of the tube and the ovary, now cystic, forming the fourth and final termination in the course of salpingitis, viz., a *tubo-ovarian abscess*.

These *four lesions* are but different forms of the same disease—chronic salpingitis. All of them may be found in one woman, representing successive stages of the tubal infection. From one of our cases was obtained a most interesting specimen, illustrating three of the issues of chronic salpingitis. The uterus of about normal size had springing from the posterior surface a subperitoneal fibroid of the size of a lemon, while on the right side there was a pyosalpinx and a tubo ovarian abscess as large as an orange, and on the left a hydrosalpinx of smaller size. A complete removal of the pelvic organs was done and the woman recovered.

The *symptomatology* of chronic salpingitis is worthy the careful attention of every practitioner of medicine. Sometimes, it is to be feared, the disease is looked upon in a vague fashion without reference to its pathology or a thought as to its frequency. There are four cardinal manifestations, borne out by our experience, and, given these, the diagnosis can usually be made: 1. Pain. 2. Acute peritoneal attacks. 3. Menorrhagia. 4. Sterility.

1. Besides the common *pelvic pain* seen in other conditions, and which in this instance is notably increased by jolting and jarring the body, there is the characteristic *tubal dysmenorrhea*. The feature of it is that the pain begins from several days to a week before the period and is not relieved by the flow but lasts throughout the entire menstruation. This differs markedly from dysmenorrhea due to anteflexion, and has been in our cases uniformly constant.

2. *Acute attacks of local peritoneal inflammation* occur either from leakage or as the result of a fresh infection of the tube from bladder, bowel or womb. If not actually present at the time, the history of such an attack previously should be definitely sought for in the clinical examination. Most often women will describe it as "inflammation of the bowels," and will mention having been confined to bed with the condition more than once. Nothing in gynecology is so certainly to be depended upon as the previous occurrence of acute exacerbations when making a diagnosis of chronic salpingitis.

3. *Menorrhagia* is another symptom which has been in our work very often present. So keenly have we been impressed with it that we suspect tubal disease always when menorrhagia is found. Not only does curettage fail to relieve the hemorrhage under these circumstances, but it is positively dangerous in the presence of a possible pus-tube.

4. Loss of the cilia and cystic degeneration of the ovaries may account for the *sterility* in these cases, though the primary endometritis is probably responsible for the greater number. Theoretically, if conception occurs, it is prone to result in a tubal pregnancy. Taking these four symptoms, together with the history and a bimanual examination, one ought to determine the existence of salpingitis.

The *treatment* resolves itself into, first, curing the associated endometritis, if possible, by local treatment, or, if no pus be present, by curettage with thorough drainage of the uterus; and, further, by making the woman comfortable under rest, salines and douches. The degree of suffering should be the index for advising further interference. Every woman with gross lesions, as a pyosalpinx, will need radical treatment, and, even without demonstrable lesions, surgical operation is justifiable, especially if the case has resisted milder measures. When the patient is young and anxious for children, attempts at conservative work may be made—freeing the lumen of one tube or leaving a portion of it in relation to the ovary. Under these conditions there is always the chance that a secondary operation will be required, and the woman should be acquainted beforehand with this possibility. It is needless to say that the treatment of chronic salpingitis does not presuppose the immediate removal of the tubes. Each case must be studied on its own merits in its pathological, social and moral aspects. While most cases are not benefitted by any form of palliation, radical removal should be looked upon as the last resort, unless dangerously infective lesions are present.

3. *Tubercular Salpingitis.*—Tuberculosis of the Fallopian tubes has furnished one of the most interesting and satisfactory chapters in the history of modern gynecology. A brief summary of its *pathology* as worked up by those who were the first to systematize our knowledge of the subject will not be amiss. In the first place, the condition is broadly divided into a primary and a secondary infection. The primary is less frequent and, according to Hegar, is of the ascending type, that is, it comes from below through a tubercular infection of the genital tract by feces, coitus or ulceration. Secondary tubal tuberculosis is a much more common affection. It arises from a primary focus in some other part of the body, and is of the variety described by Hegar as descending, that is, coming from above usually through the peritoneum. By analogy from joint, bone and brain tuberculosis, infection through the blood-stream (hematogenous) must be allowed. (Whitacre.)

The morbid changes occurring in the tube as a result of tuberculosis vary widely, from the normal sized tubes in which the tuberculous process is recognized only by the microscope—the "unsuspected tubal tuberculosis" of Williams—up to a very large pyosalpinx. In general, there are three events in the course of the condition, viz: the formation of miliary tubercles in the wall of the tube, the existence of a tumor and a progressive infection of the remainder of the genital tract. The typical condition is: a collection of grayish or transparent miliary nodules on the surface of the tube, a dilated lumen filled with caseous meterial and the presence of adhesions binding the tube down into the pelvis. (Whitacre.) Hegar lays stress upon two points as being characteristic in tubal tuberberculosis: (*a*) a rosary-shaped swelling produced by nodules along the free border;

(*b*) a dilatation at the isthmus, appearing as an extension of the uterine cornu.

From a routine examination of all tubes removed, tubercular salpingitis will be found to be much more frequent than is usually supposed. Williams considered that 8 per cent. was not too high an estimate, and he showed that many tubes thought to be simply inflammatory were in reality tuberculous. There is no doubt from the evidence that a "pre-existing gonorrheal salpingitis would predispose the tube to a tuberculous infection." Although an acute and a chronic form are recognized, yet the former is not such a distinct clinical entity as an ordinary puerperal salpingitis. The best division is into a miliary, a chronic diffuse and a chronic fibroid form, corresponding, as will be noticed, to the varieties of pulmonary tuberculosis.

There are no pathognomic *symptoms* of tubercular salpingitis. They may be absent altogether or may be similar to those seen in ordinary inflammations of the tube. The patient's attention may be called to the region affected by irregularities in her menstrual phenomena—menorrhagia in the primary and amenorrhea in the secondary variety. Ascites from a complicating peritoneal tuberculosis gives specific signs of its presence. From this negative symptomatology it will be seen that the diagnosis is seldom made before operation. It might be determined by a tubercular family taint, a primary focus in other organs or in the husband, and the history of peritoneal attacks; or, on examination, tuberculous nodules may be found, along with the rosary-shaped swelling and dilatation of the isthmus.

The reported finding and removal of tuberculous tubes discovered unexpectedly in abdominal surgery, in addition to a clearer view of the pathology, has led to a more hopeful outlook and a more satisfactory *management* of the affection. Spontaneous cure may occur through fibroid changes and encapsulation; but when considered as a whole, operative treatment is the only rational plan in every case. Now, what are the indications for operation, and what is the method of procedure? If the condition is found accidentally or diagnosed early, radical removal (salpingo-oophorectomy) should be done. The coexistence of peritoneal tuberculosis is an additional reason for operation and not a contraindication. Since such cases, as we know, are cured by a simple opening of the abdomen, the question naturally arises: should the tubes and ovaries be removed in every case? Our opinion is that they should, if the tuberculous process seems to be confined particularly to, and is more prominent in, those structures, and if their removal can be accomplished with safety. Otherwise they would much better be allowed to remain and share in the benefit to be derived from the incision and closure. Ochsner has recently pointed out that we have been doing too much to these cases, especially in the face of extensive adhesions. In our own experience there has been occasion once, at least, to regret a too radical digging of the tubes out of the pelvis, and we believe this effort hastened a necessarily fatal result. The problem of operating in cases of tubal tuberculosis secondary to phthisis is to be settled in each instance by operating, if at all, in the early cases and not at all in the late ones. Tonics, fresh air and hygiene play a large part in the convalescence, for these patients are usually thin and frail.

From September, 1902, to May, 1903, there were operated upon in our clinics at Rex and St. Agnes' Hospitals sixteen (16) cases of salpingitis. According to the nature of the infection, these were divided as follows: gonorrheal 10, puerperal 3, tubercular 3. Without exception, the gonorrheal cases existed in the form of pyosalpinx or tubo-ovarian abscess, the clinical history in some and the pathology in all confirming the diagnosis. It is to be recalled that the pus in such cases is generally sterile and will not infect the peritoneum. In only one (a dirty tubo-ovarian abscess adherent to the bladder) was any external drainage employed, though several of the pus-sacs were ruptured in their removal. Of the puerperal cases, the first was acute, the second might be termed subacute, resulting from infection at a miscarriage six months previous, and the other was a typical chronic case, showing the effects of early damage to the tubes from a former sepsis in childbed. One of the tubercular cases presented well-marked cheesy pus-tubes, while the other two were complicated by tubercular peritonitis, associated with ascites. The only death in our series followed the operation on one of the last-named cases, which would have proved fatal from natural causes very soon.

Some Remarks Upon Appendicitis—Particularly as to Its Treatment.

By F. T. Meriwether, Asheville, N. C.

This subject has been written and rewritten upon so much of late years that it no doubt has become somewhat stale to most of you, but from time to time more light is being thrown upon it, changing some of our views and crystalizing others, so that to-day we are better able to cope with this disease than we were before.

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*Read before the North Carolina Medical Society, at Hot Springs, N. C., June 3rd, 1903.

In the first place, a rather large and extensive experience with appendicitis leads me to say that its treatment is purely a surgical one; not that I would operate upon every case as soon as it is seen, but every patient with appendicitis should either be under a surgeon's care or in the hands of a physician who recognizes the surgical nature of the disease. The very mildest cases, apparently, often develop into the most severe and fatal forms, and no one can say at any time during its course when or how any case of disease of the appendix will terminate. No one, not even the most skilled, can say whether or not the appendix is gangrenous, or can determine the nature of the infection. I have seen many cases with a normal or very slightly elevated temperature, with a good pulse and very slight local signs of serious disease, in which an operation would reveal a gangrenous or possibly a ruptured appendix, which would undoubtedly have terminated in death if not operated upon. I believe that if the case is seen early, that is within the first 24 or 36 hours, and a positive diagnosis can be made, particularly if there is a history of former attacks, an immediate operation is indicated. If, however, the case is not seen until after this period of time and the patient is improving, a delay of from two to three weeks is often advisable, being prepared to operate at any time, upon short notice, upon the appearance of untoward or alarming symptoms. Some cases, to the ordinary observer, seem to be improving, when in reality the patient is losing ground. Very often opium, in some form, will so improve the temperature and pulse and control the pain that one is misled into thinking that a real improvement is taking place, when in reality the peritonitis is making rapid steps toward a fatal termination. Every one who has operated frequently for this disease has seen this class of cases, the nurses' chart apparently showing signs of marked improvement, and yet the patient's appearance, possibly a slowly increasing distention of the abdomen, often accompanied by a rather leaky skin, and that bluish, almost cyanotic appearance of the skin, particularly of the lips and hands, at once makes the surgeon know that there is a septic peritonitis present. A great many of these patients have an almost unnatural brightness of the mind, even up to the last moments of their lives.

Another deceptive class of cases are those in which, after great pain and obstinate constipation, there is a rather sudden drop in the temperature, relief from pain, and a more or less profuse diarrhœa, and the physician thinks his patient on the road to recovery, when in reality this apparent improvement in the symptoms is caused by a rupture of the appendix or of an appendicular abscess, which will surely cause death in a short space of time unless operated upon at once. The appearance of a diarrhœa, particularly if the discharges are watery and contain a large quantity of mucus, does not exclude a general peritonitis. While, as a rule, peritonitis does cause intestinal paralysis, and obstinate or absolute constipation, in some cases there is an apparent diarrhœa, due often to a catarrhal enteritis of the large bowel, caused by the disease of the appendix.

I have seen cases in which there was almost an entire loss of control over the bowel movements, due no doubt to the toxemia overwhelming the nerve centers.

I think nearly all of the deaths following the operation in this disease are due to the want of judgment on the part of the operator. Of course, there are a limited number of cases which are virtually dead when placed upon the table, and in which the operation was done merely as a last resort, and I of course exclude the deaths in cases operated upon by unskilled and unclean surgeons, where, of necesssity, the mortality is high. These cases should, probably, not be operated upon, and yet now and then one is saved, and I do not think any surgeon is justified in refusing the operation, for it is the patient's only chance. The operator and the operation will be blamed for the death, if it occurs, but our duty to the patient is paramount to any bad effect upon our statistics. But in the cases in which we expect to get a good result, in proper hands the mortality should be almost nothing.

While the operation seems to be a simple one, it certainly requires judgment to know what to do, whether or not to dissect out and remove the organ, to drain or not to drain, how to drain, what disposition to make of the stump of the appendix, and the after treatment, all of these and many more problems will tax the brain of any operator. I believe that any operator who follows one routine operation will lose more patients than one who will vary his procedure according to the case and the conditions found present. Even in the simplest form of the disease, which is an appendicular abscess, well walled off, and well up against the anterior abdominal wall, to get good results will require the best skill and judgment of the operator.

Theoretically, it is undoubtedly best to remove the appendix in all cases, if it is possible, but, in some, the time taken to find and dissect out the organ, the possibilities of breaking down adhesions and lighting up a general peritonitis, when before we had only a local one, makes it bad judgment to do such a complete operation.

To my mind, an incomplete operation with a living patient is better than an ideal operation and a post mortem. In many cases the appexdix will slough out, for in these cases it usually forms a part of the wall of the abscess, and of course the wound must be drained, or else a second operation may be done after the patient has gotten strong enough to stand it. Some of my best and most brilliant results have been gotten in apparently moribund patients with fairly well-walled off cavities, by simply opening, washing out and draining thoroughly with gauze possibly for several weeks. The operation takes only a few minutes, and the rapid improvement in the symptoms is very gratifying.

It is also true that in cases without free pus, for I take it that no one would close a case in which free pus is present, it is a good thing to suture the wound, thereby lessening the dangers of bemia, and getting a nice scar and the patient up early, but the man that does this as a matter of routine will now and then lose a case that he ought not to.

It is hard to make rules as to drainage, particularly in cases operated upon early, for sometimes without anything more than a gangrenous appendix, no pus and apparently very little peritonitis, immediately after the operation there develops a fulminating form of peritonitis, and either the abdomen must be reopened and drained or else the patient will die.

I have had cases of this kind which I drained almost by intuition, in which the extreme virulence of the slight amount of serum present in the abdomen was shown by the death and sloughing of the tissues of the abdominal wall around the drainage gauze, the temperature going up to 104 or 105 deg. within twenty-four hours after the operation, and in which the drainage saved the patients' life.

In these cases, it is astonishing how much serous discharge takes place after the operation, simply saturating the dressings and the bedding, necessitating their change every few hours. In fact, when I do drain, I feel easier when we get this large amount of exudate, for the patients usually do well, whereas, if the dressings remain dry the system is absorbing the toxins, and the case requires the greatest care and attention to pull it through successfully.

Theoretically, drainage is usually not a good thing, but I have never regretted using it. When in doubt whether or not to drain, drain.

The diagnosis of this disease is sometimes very difficult, but the man who waits until he can feel a tumor, in order to make a diagnosis, will lose most of his patients. In his conservatism he is placing the responsibility upon Providence and Nature, and while the latter does her work fairly well, sometimes, in walling of the diseased appendix, it is unsafe to place overmuch confidence in her assistance.

Very often one is misled as to the severity of the case by the apparently good condition of the patient when first seen. One case I recall, had about three pints of free pus in the abdomen, and yet he walked a quarter of a mile and got upon the table with a pulse of 80 and a temperature of 98 4-5. I have seen several cases like this, and quite a large number with a history of rather slight pain or soreness, more or less localized, with a pulse of from 76 to 80, the the temperature ranging from 99 deg., or possibly normal, morning, to 99½ to 100 deg. evening, very little tenderness and right sided rigidity, slightly coated tongue, possibly the patient able to attend to his usual work; in fact, every evidence, apparently, of a slight irrritation about the appendix and the head of the cecum, and yet when operated upon the appendix would be found to be gangrenous, or possibly partly or wholly sloughed off, and yet no free pus present or any attempt at walling off. I have taken men from their work, only a little inconvenienced by the disease, and removed from them a rotten appendix, and yet they had been hardly conscious of any discomfort of or disease in that part of the body, attributing all the trouble to some other organ, usually the stomach or liver.

Even when the appendix is not found gangrenous, possibly acutely flexed and adherent and more or less congested, it is remarkable in some cases who have a history of chronic indigestion with slight discomfort and tenderness in the right illæ fossa, the relief that is obtained by the removal of the organ. I rather believe this disease is on the increase.

The habit of eating too rapidly and irregularly, which is so prevalent in the average American, must cause a certain amount of gastric and intestinal catarrh, and the appendix being involved at the same time, and being a poorly nourished organ, is left diseased even after the general trouble is relieved.

In this disease an early operation is a conservative not a radical procedure. We always have before us the probable consequences of pus formation or gangrene, terminating in a septic peritonitis. It is far safer for the patient to remove the appendix while in a state of incipient inflammation than to wait until these complications set in, when we are called upon to operate, not for appendicitis but for the peritonitis.

The danger of delay cannot be estimated, particularly in cases in which there is no tumor, for it is safer to delay in cases with a tumor than in one without one. A tumor shows that the disease has been walled off from the general peritoneal cavity, and unless it is leaking the operation may be delayed with some safety.

Finally, let me urge an early diagnosis and operation, or, when the latter is not advisable or cannot be obtained, an operation at the earliest possible moment after the attack has subsided. Nearly all patients who have had one attack will have another each one making the conditions in the abdomen worse. The anxiety and worry and dread of future attacks will, of themselves, justify the operation, and no one can predict when the fatal attack will come on. The operation itself has no mortality, deaths occurring not from the surgical intervention but from the disease and complications which necesitate the operation. The prognosis on the first day of the attack is good and certain, upon every day thereafter it is as variable as the disease itself.

Appendicitis is a local disease, primarily, easily and safely cured by prompt surgery in skilled hands.

When in doubt whether or not to operate, operate, and you will make no mistake. My last 176 consecutive cases have been without a death. These were cases, some with general peritonitis, some walled off abscesses, and a great many interval cases. I attribute the good results in the cases complicated by peritonitis to the free drainage used. We must remember, as I said before, that in these cases we are not operating for appendicitis alone, but we are operating upon a case of septic peritonitis, more or less general.

Hodgkin's Disease.

By W. L. Kirkpatrick, M. D., Pacolet Mills, S. C.

Stengel says: (Stengel's Path. p. 337) Pseudoleukemia, or Hodgkin's disease, resembles leukemia in the lesions of the solid organs, but differs in that the blood does not present increase in the number of leukocytes. The lymphatic glands enlarge more quickly than in leukemia, and the spleen and marrow are less frequently involved, but otherwise no distinction can be made. Cases of Hodgkin's disease sometimes become converted into leukemia, and the reverse has been known to take place. It has been held by some that Hodgkin's disease represents an alaukemic stage of the same disease.

Stelgel says also, in his work on pathology, under, "Nature of Lymphadenoma," (Stengel's Path. p. 144), that many cases have, however, been observed in which Hodgkin's disease has become leukemia, and some authors do not hesitate to speak of the two diseases as identical and representing merely two stages of a common affection.

The case of Hodgkin's disease, reported by Dodson, (Pediatrics (N. Y.) April 15, 1902), failed to show any tubercular infection either by microscopic examination of the gland or the tuberculin test. He doubts the propriety of attributing all cases of this condition to tuberculosis. He says it is, probably, of infectious origin, but the infection is not yet known.

Under "Etiology of Lymphadenoma," Stengel says (Stengel's Path. p. 142) it is exceedingly difficult to establish the limitations of the term, and especially to decide whether or not certain cases in which definite etiologic factors have been discovered belong to the group under consideration or should be separated. There are cases of infectious enlargement of the glands and traumatic swellings that cannot be distinguished histologically. In some cases even the clinical course is the same and a separation seems impossible. For example, the glands in a number of cases of Hodgkin's disease (as far as the clinician can establish this diagnosis) have been found to contain tubercle-bacilli. We must conclude that general lymphatic tuberculosis may occur in the clinical form of Hodgkin's disease, but cannot assert that all cases of the latter are tuberculous.

The conclusions of Musser's article are that Hodgkin's disease (American Med. (Philadelphia) Jan. 4, 1902), is in all probability a lymphatic tuberculosis; fever, recurrent in type, occurs commonly in this affection of the glandular structures. So-called recurrent fever is a symptom, not a disease. In a few rare instances the clinical diagnosis, when such fever prevailed, was malignant lymphoma, sarcoma, myelosarcoma, and lymphosarcoma. It must be remembered that such distinguished authorities as Ehrlich and Lazarus believe that Hodgkin's disease is a lymphosarcoma, and that the tuberculous process is accidental.

Sternberg, on the other hand, has pointed out the differences and insists strongly upon the tuberculous as the process giving rise to the adenitis of Hodgkin's disease. He believes that the symptoms are different from those of other forms of tuberculosis the anatomy of the gland having much to do with the process. Musser agrees with the conclusions of Sternberg.

Hodgkin's disease is thoroughly review

ed in its various aspects by Ely, (Philad. Med. Jour., Oct. 18, 1902), who calls attention to the differential diagnosis from lymphosarcoma, lymphomata, etc. In conclusion he offers a theory, whch is supported by such authorities as Musser and Sternberg, that it is essentially a tuberculous disease. The process begins as a purely local lesion, in a gland or chain of glands, and seems to extend by the spread of the germs, just as we may expect from tuberculous processes. An abrasion may be the starting point in many cases, and as presumptive evidence he quotes the fact that an increasing number of diseases formerly otherwise described, are now found to be of tubercular origin, and though in this case the inoculation experiments failed, we may nevertheless consider this the most probable hypothesis.

Definition—An anemic disease characterized by the anatomic peculiarities resembling those of lymphatic leukemia, viz: progressive hyperplasia of the lymph glands, occasional lymphoid growths of other organs (liver, spleen), and by the absence of the destructive blood changes of true leukemia.

Etiology—Hodgkin's disease oftener affects males, and young middle-aged persons between the ages of ten and forty years. There seems to be no well-established predisposing conditions. Neither has any exciting cause been discovered as yet. Malaria, syphilis, chronic skin disease, and various irritative conditions, especially of the mouth, giving rise to local glandular swellings, have also been assigned as causes. In undoubted instances of Hodgkin's disease the lymphatic glands frequently harbor tubercle-bacilli, hence it has been thought that the latter exercise a distinct causative influence. It must be remembered, however, that some of these may be examples of secondary accidental infection; others of primary diffuse lymphatic tuberculosis, indistinguishable from, or mistaken for, Hodgkin's disease. It is not uncommon to find pseudo-leukemia developing in a persou who immediately preceding the beginning of the disease was apparently in perfect health.

Symptoms—The presence of fever in association with enlargement of the lymphatic glands, particularly those of the neck, indicate Hodgkin's disease. (Hare) Usually the first thing to attract attention is the enlargement of the submaxillary and cervical glands, often on one side of the neck alone. (Anders.) Some times several years may elapse before other glandular groups are affected, but, as a rule, it is a matter of months only before other groups are affected. The general health may be but slightly affected at first. A little constitutional disturbance and some pallor may be complained of, though seldom before the glandular swellings are noticed. As the disease progresses the paleness increases and all the symptoms of a marked anemia appear, languor, failure of physical strength, beginning emaciation, gastro intestinal derangement, headache, giddiness, palpitation, dyspnœa and edema of the legs. An irregular, slight or moderate fever is common to most cases. "Enlargement of the tracheal and bronchial glands may cause dysphagia, dyspnea, thoracic pain, disturbed phonation and venous congestion, by pressure respectively upon the esophagus, trachea, bronchi, thoracic nerves, recurrent laryngeal nerves, superior vena cava, and the jugular veins. Gastro-intestinal disturbances may be troublesome, and are usually symtomatic of lymphoid growths in the stomach and bowels." (Anders). The spleen is enlarged in a majority of cases, but only to a slight degree. "Anemia is usually but not invariably present." (J. M. DaCosta).

Diagnosis—Tuberculous adenitis is more likely to be confounded with Hodgkin's disease than any other affection. Tuberculous adenitis is most common in the young, and attacks the submaxillary glands oftener than the cervical chains along the sterno-cleids-mastoid muscle. Periadentis, adhesion and supuration of the glands occur in tuberculosis. Intermittent attacks of pyrexia are an indication favoring Hodgkin's disease. It may be differentiated from leukemia by an examination of the blood. The diagnosis of splenic-pseudo-leukemia is to be made on the decided splenic enlargement without enlargement or involvement of the lymphatics. Syphilis must be carefully excluded by the history, symptoms and therapeutic test.

Prognosis—Hodgkin's disease runs an almost invariably fatal course. "In some cases the termination may occur in a few months, but usually death ensues after a lapse of two or three years." (Anders.) Grave indications are the rapid extension of the glandular enlargements, great debility, anemia, emaciation, steadily increasing and continuous pyrexia, thoracic pressure, symptoms, hemorrhages, and marked anasarca.

Treatment—"Local or surgical treatment is of no avail." (Anders). The patient's strength should be supported in every possible way. Arsenic in gradually increasing doses should be administered as soon as the diagnosis is made. The value of arsenic is undoubted in many cases. Inunctions of ichthyol or idoform may be tried for their psychic effect.

Case—Miss N., age 20, dark hair and eyes, weight about 140 pounds. Left W., N. C., for Taylorsville, Miss., the last week of January, 1902, reaching that place Jan. 27th. She remained there, teaching, until second week in June. Thence to Oxford, Miss., where she remained one month, reaching home (W., N. C.) July 19th, 1902. Took her bed August 7th. Taylorsville is a new town, and center of a considerable lumber trade. Many houses were new and had no yard fence, and there being no "stock law" hogs ran at large and often bedded in the shavings near or under some of the houses; consequently fleas were in abundance, and she was bitten frequently, some of the bites raising large itching whelps. In April she began having "boils," some large, some small. Those on her face and neck she "put back" with spirits of turpentine, but many of those on her body suppurated. The boils continued till June, none after reaching home. While at Oxford her friends noticed that she sometimes complained of feeling tired, and she would wonder why it was so. Also that she spoke of her neck hurting, but they did not notice any swelling. My first visit was made on August the 9th. She had taken to bed two or three days previous to this time, and her parents had noticed that her tongue was coated, and cheeks flushed for a number of days. I saw her in the afternoon, temperature 102 deg., pulse 96, tongue coated. The glands along the sterno-cleido-mastoid on left side of neck considerably enlarged, and patient complaining of a lump in the throat, and chilly sensations. There was complete anorexia, and when she did force nourishment often vomited. For about ten days there was a regular evening exacerbation and morning remission of her temperature, at the end of which time it reached 103½ deg. in the evening, dropping to 101 deg. in the morning. Then for several days there were two distinct waves of fever during the twenty-four hours. One rise in the early morning hours the other in the evening. The glands in neck by this time had enlarged until the largest one was larger than a hen's egg, a number of others not so large. They remained in about this same condition until her death, which occurred Oct. 22nd. At no time did she complain of tenderness in the glands when being examined. The skin was never adherent to them. From the beginning the circulation became more frequent each week until within about one week of her death it reached 144, remaining about that until she died. She continually complained of feeling so weak and exhausted, and insisted on being let alone. During the first five or six weeks of her sickness she did not perspire at all, after that time she did a little only rarely. After first five weeks of her illness the temperature was very irregular and not so high. At times there would be no fever at all, or only a half or one degree for a period of several days; then for several days temperature would rise again. The symptoms that were most annoying to the patient were the lump in the throat, the tired feeling and inability to take nourishment. About two weeks before her death, for several days, her speech was wandering, and she complained that she could not see well. Repeated, careful physical examinations failed to detect any abnormality in chest or abdomen, except the increased heart action, and probably a very slight enlargement of the spleen. From the beginning she gradually became more emaciated and anemic, and when she died was very thin and pale. During first ten days of her illness she had purgative doses of calomel three or four times, and enough quinine to thoroughly cinchonize her twice. After that time she took Fowler's solution in increasing doses; also some Syr. Iod. Fer. and Kalii Iod. The remainder of her treatment was symptomatic. She was carefully and intelligently nursed from first to last by members of her own family.

During her illness Drs. Pharr, Merriwether and Way saw the case with me.

Practical Anæsthesia.*

By L. A. Merriman, M. D., Asheville, N. C.

The great advances of Surgery and Gynaecology, made since 1850, have been due, in no small part, to Dr. Morton's discovery of a reliable means of producing insensibility to pain and unconsciousness of surroundings. This discovery, with the knowledge of sepsis and anti-sepsis, has made the enduring work of modern surgery possible.

Local anæsthesia is so easily obtained, and so devoid of any, but local, ill effect, that it is needless to consider it. Spinal cocainazation is established, so far as anæsthesia goes; but the after effects are still in doubt. Ethyl-bromide, varying mixtures of ether and chloroform with or without alcohol, have been advanced as general anæsthetics. Their use was never general.

Each individual case calls for a careful selection of the anæsthetic to be used. No one is justified in the use of one exclusively, certain conditions govern the use of each, just as one directs one remedy, rather than another of the same class, according to the end desired.

The physical examination of the subject

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*Read before the Buncombe County Medical Society.

should be as thorough as possible, special attention given to condition of heart, blood vessels and respiratory system. Careful examination of urine should be made at least twice.

In general, ether is preferred, but in case of renal disease, or wherever stimulation of circulation or blood pressure are not desirable, it should not be chosen. Inflammatory conditions of respiratory tract give the preference to chloroform. For young children, nose and throat operations, and where vomiting is to be avoided, chloroform is better.

Much advantage is to be gained by commencing with chloroform till the disagreeable stage of excitement is passed, then continue with ether. The preparation of the patient should be attended with care. For minor operations, abstaining from the preceding meal and emptying the bowels is enough. For major work if the usual cathartic routine can be finished twelve or sixteen hours before, and the intestinal canal allowed to be at rest, the chances of nausea are much diminished. The throat and waist should be unconfined, no foreign bodies in the mouth, no hair pins to injure the scalp, the patient should lie upon the back with the head turned slightly to one side. Do not allow the arms to hang over the edge of the table, cases of musculospiral paralysis have been caused by such pressure.

After the patient has been comfortably fixed and is quiet, tell him what is expected of him, how to breathe, etc. Inspire him with confidence in yourself, and endeavor to produce unconsciousness quietly and tenderly, without struggles or fright. Ten or fifteen minutes is not too long to spend in having the patient go to sleep, without upsetting circulation and mind by choking and struggling.

The pulse should be carefully watched during the first stage for any adverse indications. Moderate acceleration is expected. Decided slowing warns tc additional care. Any irregularity of respiration is usually overcome by permitting a few breaths of air. The anæsthetic must be given steadily so that the effect is progressive from the first breath but not in such quantities as to irritate or cause coughing.

Complete anæsthesia is indicated by the immovable pupils, only then should the surgeon begin his work, and surgical anæsthesia be maintained till the operation is completed and the toilette of the part to be made; when the anæsthenic may be gradually withdrawn, a few whiffs to be given as needed to prolong unconsciousness of pain and surroundings till patient is returned to bed.

The pulse gives the most reliable indications of the effect of the anæsthetic on the whole system—its volume—rate and character must be carefully noted every few minutes. Quickening of pulse or respiration may mean returning reflexes, and call for more anæsthetic, or be first notice of impending failure of either one. Progressive slowing of pulse or respiration is a danger signal shown before the dilation of the pupil; either indicates the use of strychnia—hypodermically—which used promptly may save subsequent trouble. Operations near the diaphragm or region of the rectum need complete anæsthesia–for irritation of the one and dilation of the sphincter of the rectum cause deep breaths to be taken, and the patient may be overwhelmed in a moment. If the breathing becomes noisy the tongue should be supported by a pressure forward at the angle of the jaw, or better still, by placing the thumb of the hand which holds the inhaler beneath symphysis of the jaw making firm pressure forward and upward. This is more effective than the use of tongue forceps.

The color of the skin is a good indication of the condition of the circulation. If the lower side of the face becomes congested—slightly blue, or pressure leaves a white spot which is long in disappearing, the pulse should be watched with more care. In changing from the dorsal to the Trendelenberg position, the greater amount of anæsthetic laden blood rushing through the medulla may upset the circulatory equilibrium for awhile, so that a few breaths of pure air should be allowed. The anæsthetist should note the progress of the operation, and watch his patient, especially during dilation of a sphincter, tying off a pedilse or ureter, etc., for at such time trouble is most likely to occur. If the operation causes much loss of blood, replacing it with hot normal saline solution sometimes prevent serious shock.

Stimulation for circulation may be needed during the period of return to consciousness, and the anæsthetist should never leave his patient till assured that all dangers are past.

The commoner accidents of anæsthesia are arrested respiration and cardiac failure. In the former, withdraw anæsthetic and try to re-establish respiration by intermittant pressure on the chest; failing in this, use strychnine hypodermically with whiskey or brandy if chloroform be the anæsthetic. Dilate the sphincter ani and place pieces of ice in rectum. Any of the methods of artificial respiration with use of oxygin perhaps kept up for hours. Electricity is of douhtful use. For cardiac failure—strychnine, digitalis, nitro-glycerine, or a combination of small doses of the three. Sterilized solution of camphor in oil—heat and friction to extremities—intravenous injection of normal salt solution, invitations of sympathetic system, if accessible. The ounce of prevention is well taken advantage of here. Careful watching will usually forestall either of these alarming accidents.

The proportion of unfortunate sequelæ diminishes according to the care expended in choosing and administering the anæsthetic.

Bronchitis, pulmonary congestion, even pneumonia, sometimes follow etherization —usually from aspiration of mucous or blood, or the irritant effect during inspiration and elimination. Renal inflammations rarely follow in healthy kidneys; but any degree, from irritation to complete anuria, may happen if there is any pathological condition present. Diabetics have died in coma, without awaking from the anæsthetic sleep. Most annoying is the commoner post-anæsthetic nausea, exhausting the patient's strength and adding much discomfort. Thorough preparation and care in giving the anæsthetic will avoid it in many cases, bui when once begun it is often aggravatingly persistent. It can often be allayed by application of ice bags to throat and stomach, counter irritation, very small doses of cocaine, rectal injection of bromides. Permanganate of potash, one grain in a glass of water, repeated once or twice, is almost specific; even if it is rejected before it has had time to be absorbed the stomach has been washed out, and the dose can be repeated with good chance of being retained. Its action probably depends on some oxidation in the blood. Surgeons otherwise extremely careful pay little attention to the anæsthetization of their patients. Many cases without accident give rise to a false sense of security, the case in hand may be the cause of unending regret, patients' lives are too often intrusted to inexperienced hands. The anæsthetist should be as much a specialist in his own line as the surgean in his.

Some Suggestions as to the Control of Venereal Diseases.*

By W. H. Prioleau, M. D., Asheville, N. C.

In presenting this paper for discussion, I do so fully cognizant of the vast amount of literature on the subject, and at the same time aware of the unfortunately meagre benefits derived therefrom. Some of the suggestions offered will be at once recognized as those of our greatest medical philanthropists; others are the result of much personal thought. Countries and States, from time to time, have passed laws regulating prostitution; but such laws, for self-evident reasons, cannot be enforced; and, even if they were rigidly carried out, it is hardly probable that the public would feel the benefit.

Prostitution always has existed and will continue to exist; if not publicly, then secretly; and of all disseminators of venereal diseases, the clandestine prostitute has the greatest number of victims.

I do not advocate the licensing of houses of ill-fame; but as an aid to the limitation of venereal diseases, I suggest a periodical examination of the inmates of these houses. A health certificate should never, in my opinion, under any circumstances, be given to a prostitute; for directly after an examination she may become infected, and before the next visit of the inspector she will have had opportunities for infecting many who in turn will transmit the disease to others.

Should a prostitute refuse to submit to such examinations, she should be arrested for keeping a disorderly house and be compelled to pay the penalty of the law. Again should a prostitute be found suffering from a venereal disease she should be confined in a hospital and treated at the city's expense until cured.

There are in some States laws requiring the physician to report cases of venereal diseases. No physician is going to abide by such a law, and, furthermore, I do not think a physician has any right to reveal a professional secret of so private a nature. What I believe would accomplish more would be to find out from whom the patient contracted the disease and report that fact to the health officer. While no doctor has a right to expose a patient, every man certainly has the right to expose the woman who infected him.

In discussing the limitation of venereal diseases, Valentine clearly points out that ignorance and liquor are responsible in a great measure for the existing state of affairs. Liquor should not be sold in houses of ill-fame. There can be no doubt but that whiskey is too often the indirect cause of many cases of venereal diseases—prudence disappears when alcohol is drunk to excess.

The above suggestions, if acted upon by a city, might afford some protection to her citizens.

Now we must get the prostitute to protect herself and thus indirectly to help us in our work of control. Many women of this class will not listen to what we have to say, but there will always be a few who will derive benefit from instruction along the following lines: During his periodical examinations, the medical inspector should talk to them of venereal diseases; explain the transmission and prevention; and if possible get their assistance in controling them. A sensible woman will at once see that it will help her business to keep well, and she will profit by the instruction. Every prostitute should likewise be taught the examination of a genito-urinary patient, so far as it pertains to the stains on his linen, the shreds and filaments in the urine and the external evidences of venereal infection. She should permit no man to have intercourse with her until she has satisfied herself by such an examination that he is free from disease—where doubt exists, he should be required to use a rubber covering or condom.

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*Read before the Buncombe County Medical Society, Asheville, N. C., July 20th, 1903.

This applies to the prostitute who openly plies her trade; to reach the clandestine harlot is a more difficult task and one worthy of the deepest consideration. We can come in touch with her only through the men who know her from what she is. These men should be told of the risk they run by going with such women. A "private snap" is always dangerous—for it must be remembered that such a woman plays the unwilling subject to each man desiring her so-called virtue. Education along the lines laid down below is the only way to reach these women—in other words, if we can educate our boys and men, they will either avoid promiscuous intercourse, or will act as missionaries to these women in the hope of saving their own skins.

The next important point to be considered is the education of our boys and young men. It is here that the family physician can do most good. We have seen the failure of the State laws to accomplish their end, but in a measure doing a certain amount of good. The same may be said of the Church. Now it remains for the general practitioner of medicine to take a hand in the battle; he may not be able to stop the vice, but he certainly can do a great deal towards the elimination of venereal diseases.

I am unwilling to discuss the neeessity for houses of ill-fame. Such institutions exist. We may as well look facts in the face, and if we cannot reform the world, we at least can limit the diseases that are destroying our young men and indirectly our young women—our sons and our daughters.

I believe it the duty of each physician to instruct the boys of the family over whose health he presides. He should explain to them the anatomy and physiology of the genito-urinary organs, and the venereal diseases connected therewith. In the most impressive way he should talk to them about gonorrhœa and syphilis; if possible emphasize the terrors of these diseases by showing casts or photographs of them in their most repellent stages. It is the father's right and duty to instruct his sons, but he is never certain of the proper time, and is afraid to begin too early. The family physician being a quasi outsider, and yet having the interest of his patients at heart, is a far better judge of the proper time for giving such information. Each boy is a law unto himself, some are ready to receive instruction at twelve, others not until sixteen. Where lectures on anatomy and physiology of the genito-urinary tract and the diseases belonging thereto are given in boys' schools, I would not advise such instruction before the age of fourteen; even sixteen, I think, is a better age for imparting such knowledge. These lectures should be illustrated so as to make them impressive—the nearer we can get to the real ravages of a disease the more lasting will be the impression on the boys' minds. If possible, it would be well to use the clinical material from nearby hospitals as a means of illustration. This of course is along the lines of educational limitation of venereal diseases, so ably discussed by Valentine at the last meeting of the American Medical Association.

Books written for boys fall short of the object desired. Everything must not be told to the boy at once, the instruction should be gradual. Books, as a rule, only excite the vulgar curiosity to know more.

As an aid to prevention of venereal disease, every male child should be circumcised. The pendant foreskin only retains foreign substances and invites disease. It is acknowledged that the Jews contract venereal diseases less often than any other race; this fact probably being due to circumcision.

This article has been written in the hopes of aiding in the solution of a problem which is claiming the attention of all true philanthropists; and if any suggestion offered should be of advantage to those interested in this subject, I shall feel compensated for my efforts in writing this paper.

Immediate Drainage of Dropsical Cavities.

By Lucien Lofton, A. B., Ph'g. M. D., Belfield and Emporia, Va., Ex-President Seaboard Medical Association of Virginia and North Carolina.

As the science of surgery advances many of the older methods of dealing with one thing and another is being religiously cut out by the modern surgeon. This being the result of conscientious experimental work.

The nineteenth century surgeon, while orthodox in the majority of instances, his latter day confrere the twentieth century surgeon, is rapidly tabooing the teaching of the elder Gross, Tait, Sims and others in a degree that not only astonishes but electrifies us as well. Then, how can we conscientiously say, "there is no new thing under the sun."

Surgery has made more rapid strides within the last decade than has medicine, per se, made in the last quarter of a century. The reason being that 95 per cent. of the things we do in medicine is experimental, while surgery, being definite and something we can get our hand and eye upon, has forged ahead with startling strides, and today she is closing up the gaps left down and blazing new trails where many less timid feared to venture a few years since. But to return to the title of the paper.

Empyema, hydrocele, abdominal and thoracic dropsy, and in fact any collection of fluid, regardless of situation, has all along been regarded as not only good surgery to go slowly in draining, but positively dangerous to life to suddenly withdraw all fluid collected at one sitting, and hence, surgeons have, up to the present, felt that to disregard this teaching was a sacrilege. Notice the gynecologist in removing his patient from a cystic degeneration containing from three to six gallons of fluid under an anæsthetic without collapse, while on the other hand the general surgeon would not dare puncture and completely drain even a hydrocele, for fear of syncope, or what is the more dreaded, fatal collapse. The same applies to empyema and abdominal dropsy. The writer has totally disregarded the orthodox treatment in these conditions, and without a single fatality; in fact, did I have even as much as a fainting spell to attack my patients. Of course, where there was great weakness, I forestalled the condition with strychnia and other well-known heart stimulants, and then I am not certain I needed them.

The age of my patients ranged from ten years to sixty-nine, and were about equally divided as far as sex is concerned.

I will illustrate a case of empyema in a man of sixty-five years of age; a case of hydrocele in a boy ten years of age, and a case of abdominal dropsy in a patient sixty-nine years old.

The first man, Epps Harrington, colored, aged sixty-five, of indifferent family history. A personal review of his condition elicited the information that he had had pneumonia of the right lung twice, once in 1897 and the other the latter part of 1901. He also suffered an attack of plurisy of the same side in the fall of 1902, which lasted ten days; and the trouble for which I asperated and drained him dated from December 12th, 1902. The right pleural sac was invaded with an ordinary trocar and canula of about 1-12 of an inch in diameter. The point of election was at the upper border of fifth rib, midway between the sternum and posterior attachment of the rib. He was sitting in an ordinary chair, and the usual antiseptic means were observed. I purposely had him to relieve the lungs of all the residual of air he could by forced expiration and having the point of attack well eucainized. I thrust the instrument with some force to the shoulders of the same, instantly removing the trocar, instantaneously with which he gasped, a feature I most desired, when a serosanguineous fluid mixed with shreds began to flow. In the sitting posture I removed about a pint and a half of fluid, after which I had him steadied and lowered to a bed and placed on the right side with his pelvis elevated above his body, in which position fully another pint of fluid escaped. There was an admixture of air which gave a sizzing sound. Repeated examinations of the radial artery indicated no depression. Removing all fluid and debris possible, I attached a small catheter perfectly sterilized and syringed the cavity twice with a 50 per cent. solution of H 202, using a pint at each washing, after which time the solution came away clear and sweet. After this procedure I injected through the canula six drams of sterilized albolene, into which I had mascerated three grains of pure iodoform. Removing the canula I hermetically sealed the opening with plain sterilized gauze and collodion, over which a ten inch binder that encircled the chest walls. No inconvenience or rise of temperature was experienced from first to last, and a complete recovery was made in sixteen days. There exists but little adhesion of the parts now. The man was put upon a mechanical message for the lungs in the shape of a pint bottle which he carried always around with him, blowing into it six to ten times daily, and by this means whatever adhesions did exist seems to have been broken up by this simple measure.

Case No. 2 is Samuel J., aged ten. A young white boy of robust constitution, without any family history of event, and the same applies to his personal history, other than he had always been a great lover of horseback riding, and which I believe entered into the genesis of his hydrocele. At any rate, his case presented an unusually large hydrocele of the left side. He was operated upon after the usual antiseptic preparation of the scrotum had been undergone. Selecting the most dependent part of the bag I eucainized the skin with a 2 per cent. solution of the alkaloid. The bag was punctured as before with a 1-12 inch trocar and canula while standing, and a quart and two ounces of a straw-colored fluid was removed. In fact, the sac was drained dry, after which a solution composed of two grains each of phenol, gum camphor and chloral, was injected through the canula into the emptied sac and thoroughly mascerated; a collodion dressing completing the toilet and held intact by a well-fitting suspensory. No heart depression was experienced in this case, not even a fainty, sick feeling at the epigastrium. This boy made a complete recovery in ten days. There was some secondary inflammation from the second to the sixth day, after which it began to rapidly subside, and on the tenth day the collodion scab dropped off. Upon manipulation there was no pain or soreness, and at this writing, some ten months after operation, the case appears perfectly cured.

Mrs. H., a white lady, aged 69 years, who is a subject of lecocythemia, with all the classic symptoms attending this incurable condition, was punctured several weeks ago in the median line about two inches above the umbilicus with 1-12 inch trocar and canula. She was placed in the dorsel decubitus position and prepared in the usual way for lapriotomy. Being a subject of erysipelas, she was heavily dosed with the officinal preparation of tr. ferirn chloride for ten days prior to the operation. About two gallons of a serosanguinilent fluid was removed at the operation. In fact she was turned from one position to another in order to secure complete depletion of the abdominal cavity. My assistant, adhering to the orthodox method of not thoroughly emptying a cavity, advised that we suspend procedure and repeat the operation later, but, believing my position to be right, I insisted upon a total depletion upon my own responsibility, and altogether removed about five gallons of fluid without any heart depression or any physical inconvenience. Owing to the abdominal walls being so thin, I had to make a pucker-string suture around the opening made by the instrument in order to close it, but this did not sufficiently close the opening and during the night following the operation the patient continued to drain, and from what I learned next morning at least a gallon of additional fluid escaped. The heart kept up splendidly, as also did her appetite and spirits, and from first to last there was no noticeable depression of any kind. Thus these three cases, in a measure, are convincing of the mistake formerly made in draining cavities.

We must consider one important measure in evacuating both the abdominal and thocacie cavities, viz: the kidneys, if possible, before and after an operation should be in splendid working condition, likewise the skin. I think the great depression noticable in some cases is of a psychologic origin rather than a physical origin, and whenever possible it is a good idea to keep the patient's eye and mind off the operation.

Post-Operative Pneumonia, with a Report of a Case.*

By Lawrence E. Holmes, M. D., Biltmore, (Asheville) N. C.

The subject of Post-Operative Pneumonia is one of so great interest and importance that every case ought to be reported in detail, in order that it may be possible to discover the causes of this most distressing and very frequently fatal condition. No further excuse is needed for reporting the following case, and I take this opportunity of briefly reviewing the subject under discussion.

The case I wish to report is that of T. W. M——, male, aged 19, who was operated on by Dr. Meriwether in the Biltmore Hospital, Feb. 19th, 1902, for sarcocele and phimosis. The operation performed was unilateral castration, followed by circumcision.

Family and previous history were absolutely negative, as was the history of the present condition. I will, therefore, not take your time by going over unnecessary details, which have no interest whatever, in connection with the subsequent history of the case. The patient was in good health, as he had been all his life, though he was never very robust. He took the ether, which was administered on plain gauze, very well, except that the secretion of mucus was extremely profuse during the whole time of its administration, and at one time, before he was completely under its influence, it was necessary to stop the ether for a few moments on account of the great amount of mucus in the throat, which so interfered with breathing as to cause marked cyanosis. After this, however, there was no more trouble. He was under the influence of the anæsthetic about one hour. He stood the operation very well, going off the table in good condition.

The next day, Feb. 20th, the patient complained of severe pain in epigastric region, aggravated by breathing. His temperature ran up above 102; pulse 100; respiration 22. The wounds were examined and found in good condition. Pneumonia was suspected, but no signs of it could be discovered.

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* Read before the North Carolina Medical Society at Hot Springs, N. C., June 3, 1903.

Feb. 21st, in morning temperature 102.5; pulse 100; respiration 32. There is some cough with slight amount of blood stained mucoid expectoration. No signs of lung consolidation can be made out. In evening temperature 105; pulse 106; respirations 32. Physical examination shows slight impairment of resonance on percussion, over whole of right lung. Just below the angle of the scapula, a few crepitant rales can be heard, and over the whole right lung breathing is somewhat harsher than on left, particularly just below the scapula. Cough is severe. The expectoration is all uniformly blood-stained, having the characteristic "rusty" appearance. At this time, of course, there was no question as to the diagnosis of pneumonia.

Feb. 22nd. Signs of congestion more marked over the whole of right lung. Rales heard throughout same area. General condition about the same.

Feb. 23rd. Right lung shows signs of very marked congestion, but not of absolute consolidation; breathing very harsh; fremitus greatly increased; rales heard over most of the lung.

Feb. 24th. Condition about the same as yesterday. Cough moderate, causing sharp pain; sputum still "rusty." Physical signs unchanged.

Feb. 26th. For past four days temperature has varied from 102 to 104; pulse and respiration have gradually gone up, now being 130 and 38, respectively. Patient somewhat delirious in the afternoon and evening.

March 1st. For last three days patient has been restless and delirious most of the time; at times almost violently so. The temperature has gradually come down, reaching the normal to-day. General condition somewhat better.

March 3rd. For the past three days the temperature has been up again, reaching about 102. No cause for it could be detected. Down to normal again to-day. Lung is gradually clearing up, though posteriorly impairment of percussion resonance is very marked, less so anteriorly, though below the clavicle the breathing is still harsh, and vocal resonance increased.

March 16th. Patient has been steadily improving. Temperature has remained normal. There is still decided impairment of percussion resonance over right lung, posteriorly; this is probably due to a thickening of the pleura, for the breath sounds are clear, though fainter than normal, and no rales can be heard. Expansion is somewhat diminished. Anteriorly the breath sounds are still somewhat harsher than normal.

Two days later the patient was discharged. I might add that I heard of him again about a couple of months later, when he was perfectly well. At no time did the wounds show any signs of infection.

The important question to decide in this particular case is, exactly what caused the pneumonia, and this is impossible to say. From the fact that the secretion of mucus was so free that respiration was at one time greatly interfered with, it is quite possible that some mucus may have been aspirated into the lung, carrying with it germs from the mouth, and thus set up the inflammatory process in a lung already irritated by the ether vapor, and probably with some peculiar susceptibility to its influence; for it is likely that the same sensibility to the ether vapor, which manifested itself in the mouth by such a profuse secretion of mucus and saliva, extended throughout the mucous membranes of the respiratory tract.

When we come to investigate the subject of Post-operative Pneumonia, we find great diversity of opinion as to its ætiology, as well as to its frequency. The various names used almost interchangeably at the present day for this condition, post-operative, post-anæsthesia, post-etherization and ether pneumonia, suggest different theories to account for it.

By some it is thought to be brought about chiefly by the impairment of the resisting power produced by the shock of the operation itself; by others it is thought that the condition of lowered resistance is produced by the general anæsthetic, either ether or chloroform. Still others, particularly the advocates of chloroform as a general anæsthetic, are inclined to attribute any pulmonary complication following an operation in which ether has been employed, to the irritation produced by the anæsthetic on the lung tissue itself; while others consider it the result of the aspiration into the lungs of some foreign matter—mucus or vomited food particles—a true aspiration pneumonia, similar in origin and character to that which we see in bulbar palsy, or in other conditions associated with motor or sensory laryngeal paralysis. Others, still, are inclined to attribute most cases to pulmonary embolus; while the chilling of the patient, which is so apt to occur either during the operation from exposure, or later on removal, often when damp from perspiration, from a hot operating room to a much cooler room, frequently passing through draughty passages, is in many cases doubtless a causative factor.

Another strongly predisposing factor in the production of these post-operative pulmonary complications is the hypostatic congestion, induced by the protracted dorsal position, maintained after so many operations, associated very frequently with a greatly enfeebled state of the general system. The inability to expand the lungs or to get rid of, by coughing, any secretion that may collect in the lungs on account of the pain produced by the attempt, particularly after laparotomies, makes this predisposing factor more potent.

The wide difference of opinion with regard to the ætiology of this condition, is to be explained by the fact that there is no one cause to which all cases can be attributed, there being probably a certain amount of truth in each of the various theories, some cases being caused by one thing and some by another, and still more by a combination of several or all of the above named causes.

What I want to do is, to briefly review the opinions of various observers on the subject, and try to find out, if possible, the most probable cause or causes of this distressing condition, so that we may the better know how to prevent it.

With the exception of stating the fact that post-operative pneumonia may be either lobar or lobular, though more frequently the latter, I do not intend to mention its pathology, symptomatology or treatment.

Ashhurt speaks of post-operative pneumonia under the subject of systematic anæsthetics in general. He says: "A low form of pneumonia or a kind of suffocative catarrh may follow (The Use of General Anæsthetics) and prove fatal in a few days." He thus, apparently, does not consider it more likely to follow the use of one anæsthetic than another, but simply a rare condition which may occur as the result of a general anæsthetic.

He also quotes Zweifel with regard to the occurrence of catarrhal pneumonia, following operations by artificial light where chloroform is employed. Under these circumstances the latter considers the pneumonia as produced in some way—he does not suggest how—by the action of the vapor of chloroform combining with the gases of combustion. It is to be presumed that he considers the pneumonia to be caused by the irritation produced in the air passages by this combination of gases.

That there is danger in the use of chloroform by artificial light—excluding electric light—is not perhaps so generally known as it should be. This danger has been recently pointed out in an editorial in the Philadelphia Medical Journal (2) where reference is made to a case where an operation was performed by gaslight under chloroform anæsthesia, in which four nurses and two doctors showed signs of poisoning, one of the former dying twenty-eight hours after leaving the operating room. In these cases it has been shown that the poisonous vapor is C O Cl., (3) produced by the chloroform's combining with the carbon monoxide. Though in this case the severe toxic symptoms, followed in one of those affected by death, were undoubtedly due to the constitutional action of the poisonous gas, "the severe spasmodic cough," which was the first symptom, was undoubtedly due to the local irritative effect of the gas on the mucous membrane of the air passages, which in itself might in other cases be sufficient to set up a catarrhal pneumonia. So Zweifel, as quoted above, is in all probability correct in his theory, as above mentioned.

Some observers consider sudden death occurring under chloroform anæsthesia to be caused by the same poisonous gas.

In a recent discussion before the Paris Academy of Medicine, on the relative merits of ether and chloroform as general anæsthetics, Poncet, (4) after a careful study of the subject, expressed his opinion as follows: "Considering the unquestionable danger (sudden death) to which the employment of chloroform always exposes one, I prefer ether, which is far less poisonous, the great reproach attached to this anæsthetic, is, that it is more irritant to the respiratory passages than is chloroform, and it has even been said that if the latter causes more deaths on the operating table, the former kills more in the watds. * * *

"It is true that one sees broncho-pneumonia following ether narcosis, but the individuals affected are all subjects whose equilibrium is more or less unstable, from the point of view of pulmonary complications, as the result of a preexistent infection; it is necessary also to take into consideration the shock of the operation, and all the cause of chilling of which the surgical operation is the occasion; so that, according to my opinion, it would be more correct to speak of pneumonia of operation than of pneumonia of etherization." This also is the opinion of most of those who have made a study of the subject.

In a discussion on the subject of ether anæsthesia at the French Congress of Surgery, held in Paris last October, Juillar (5) who reported over 9000 etherizations without a single death, said: "I have never seen broncho-pulmonary complications due to ether, and I am persuaded that the majority of pneumonias with which this agent is reproached are simply infectious pneumonias. One ought, however, to be on the lookout for the contra-indications of etherization, especially a bad condition of the respiratory tract."

On the same occasion Roux of Lausanne said: "I believe that the great danger of ether is in its harmlessness, on account of which it is administered far too freely, and without proper care. In my opinion it is sufficient to watch the administration of this anæsthetic to avoid post-operative complications. Chloroform has always seemed to me to cause as many post-operative pneumonias as ether."

A different opinion was expressed by Montprofit (of Antwerp), who stated that he had used ether about 500 times, and had frequently observed complications in the respiratory tract. He then gave up the use of ether, employing chloroform exclusively. He reported 5,800 chloroformizations with only one death.

In a review of the subject of chloroform and ether anæsthesia, Poncet (6) says: "It has not been demonstrated and no statistics have proved that the post-operative pulmonary complications, such as bronchitis, congestion of the lungs, broncho-pneumonia, œdema of the lungs, etc., are due to the irritant action of the vapor of ether. These so-called etherization pneumonias are essentially due to infection. The pulmonary complications are probably just as frequent in those operative cases which receive no anæsthetic. It is not exact to say that the mortality from ether narcosis in the days following the operation is the same as that caused by chloroform, which kills at the time of the operation. This opinion becomes much less justified when one considers the fact that the vapor of chloroform is more irritating than that of ether."

Henle, (7) who has made a special study of the subject, says that pneumonia is not an uncommon sequel of laparotomy, but he does not seem to consider it more common after the use of ether than chloroform, though he states it is less common after infiltration than after general anæsthesia. The majorities of the pneumonias are lobular, and come on within the first three days. According to his statistics, out of 1,787 laparotomies pneumonia occurred in 143; that is, in over 8 per cent, of these 45 per cent died; the total mortality after laparotomies from pneumonia alone would thus be over 3 per cent, which is certainly very high indeed. He found that the liability to pneumonia increased with age, and was more common in his cases after jejunectomy, incarcerated umbilical hernia and resection of the stomach. He considers that the interference with respiration caused by opening the abdominal cavity, predisposes to pneumonia; as also does the chilling of the body during the operation. Aspiration of foreign matter he mentions as one of the causes. He considers it very important to keep the patient from "catching cold" after an operation, in order to avoid pneumonia.

With regard to the relative frequency of pneumonia following the different methods of anæsthesia, Eisendrath (8) says: "It was formerly thought that acute pulmonary complications following operations were more frequently found with ether than with any other anæsthetic. Mikulics has shown that the percentage is relatively larger in local anæsthesia (Schleich) than if a general anæsthetic is given. In the last few years 1007 goitre operations with general anæsthesia (chloroform) were followed in 7.5 per cent of the cases by pneumonia, and of these 3.4 per cent terminated fatally. Of 273 similar operations under local anæsthesia 12.8 per cent were followed by pneumonia, of which 4.1 per cent terminated fatally. This shows that we can no longer blame the general anæsthetic as being the chief cause of pulmonary complications following operations.

Killing, (9) another writer on the subject, says that pneumonia is the most dangerous of the complications which follow operations on the gastrio-intestinal tract. He gives the common causes, viz:

1st. Inspiration into the lung, during narcosis, of putrid secretions or contents of stomach.

2nd. Lodgment of emboli in vessels of the lung.

3rd. The continued dorsal decubitus, while the resistant powers are at a low ebb, causing a hypostatic congestion.

4th. The ordinary infective processes, causing pneumonia in the sick just as in the sound. To this class, he says, belong those cases in which pneumonia comes on directly after the operation, within 24 hours, without any assignable cause. He says that some cases are dependent on the admission of air into the abdominal cavity, so that it strikes against the under surface of the diaphragm allowing bacteria to accumulate there, and be carried by the lymphatics through the diaphragm to the lungs. He seems to think that "this explanation is substantiated by the fact that since his operating room has been so constructed as to provide practically germ-proof air, he has not had a single case of unexplainable pneumonia."

Since the lymphatics of the diaphragm have no direct connection with the lungs, the above theory hardly seems tenable.

Practically the same classification of causes is given by Eisendrath, (8) who has made a careful study of the subject: *First*, Complications (of general anæsthesia) may follow an anæsthetic, especially ether, when given in too concentrated a form, due to the fact that the mouth secretions are aspirated into the trachea and bronchi and may give rise to bronchitis, lobular and lobar pneumonia; *second*, they may be hypostatic and this may occur with ether as well as with chloroform, due to the recumbent position, diminished heart action, close fitting dressings and the tympany following operations, which frequently is a result of the paralysis of the muscular fibres of the intestines; *third*, there may be aspiration of the particles of food, and this may occur with ether as well as chloroform, giving rise to pulmonary abscess and gangrene; *fourth*, embolism, and this is the frequent explanation of the causes, including cases in which cocaine has been used, of the pulmonary complications of which we have spoken.

This is especially frequent after operations in the pelvis and on strangulated hernias, and when there has been any previous anemia, or in cachectic individuals.

* * * * * * * *

We can aid in avoiding pneumonia after ether by keeping the head dependent below the level of the trunk, and turned on one side. There is little danger in using ether other than the bronchial irritations, if these suggestions are strictly adhered to."

Osler, in his Practice of Medicine, discusses the subject in question under two heads, Ether Pneumonia, and Post-operative Pneumonia. He says that pneumonia was a common cause of death after surgical operations before the days of anæsthesia, and he quotes Erichsen as saying that of 41 deaths after surgical injuries, 23 cases exhibited signs of pneumonia. Under Ether Pneumonia—incorrectly so-called—he mentions a report of 13 cases in 5000 anæsthetizations, presumably etherizations, eight of which were tongue or jaw cases. He says that in Johns Hopkins Hospital there have been 30 cases of pneumonia with 15 deaths following anæsthesia; he does not mention, however, what anæsthetic was employed; 79 per cent of the cases followed laparotomy. He mentions the fact that the use of ether has been largely restricted in Czerny's clinic on account of the injurious after effects on the respiratory tract. "Czerny suggests that the association of ether pneumonia to abdominal operations is associated with the pain on coughing, which leads to the accumulation of secretion, and through this to retention or aspiration pneumonia. Among the various views brought forward to account for it, are the rapid evaporation of the ether, causing chilling of the patient at the time of operation; infection from inhaler, and direct action of the ether on the lungs." He ends up by saying that the probability is that the prolonged etherization lowers the vitality of the tissues of the bronchi and permits the pathogenic organisms (which are always present) to do their work.

In an editorial of the Journal of the American Medical Association (10) on the subject of lung complications of Appendicitis, Sonnenburgs' statistics of 1000 operations are quoted, in which he found lung complications of some sort in 5 per cent of all cases, though less than 1 per cent of these were pneumonia. In the editorial reference is made to the frequency of inflammatory conditions of the lungs following strangulated hernia, attributable, probably, to lung embolus. It goes on to say: "Although a large number of cases may be due to embolus, there are undoubtedly cases in which other etiologic factors are of still greater importance. The advocates of chloroform anæsthesia are inclined to call these cases Ether Pneumonia, or Ether Bronchitis, but it is significant that the inflammation seldom follows directly after the administration of the anæsthetic, but usually several days later, which should not be the case if the inflammation resulted directly from the effect of the anæsthetic. Exposure of the patient in poorly heated operating rooms may give rise to chilling of parts of the body not accustomed to exposure, and inflammatory diseases of the respiratory tract. This is no doubt a factor of greater importance than is usually believed. The fact that the patients are kept flat on their back to lessen the liability to post-operative hernia, not only after operations for appendicitis, but after all abdominal operations, makes these inflammatory conditions much more frequent after abdominal operations. Those who believe thrombosis most frequently results from infection will perhaps attribute to the infectious condition itself a part of the danger of causing these conditions.

In his work on Operative Gynæcology, Kelly says: "Pneumonia may follow the admisistration of the anæsthetic, whether ether or chloroform. Out of 1800 administrations I have seen the complication 8 times. The liability of pneumonia is increased if the patient has a slight bronchitis or a coryza beforehand."

Hare, speaking of the subject in his System of Therapeutics, says: "Bronchitis and pneumonia seldom result in this vicinity from the administration of ether. The complication is too rare to be considered in choosing an anæsthetic. Two factors call for careful investigation in connection with this subject, viz: the quality of the ether and the exposure of the patient. Certain brands of the drug are unfit for use by reason of their irritating qualitics and comparatively small narcotic properties. Exposure of any considerable portion of the body usually covered and the application of wet cloths are fraught with danger, and may be accountable for a certain proportion of the cases of post ether pneumonia. Patients who are properly protected and who inhale a high degree of sulphuric ether, administered in a judicious manner, have little to fear from any affection of the respiratory tract as a result of the anæsthetic. The tendency of patients who have been etherized to suffer from pneumonia is probably exaggerated, and is attributed to the wrong source. They should, however, be guarded from taking cold, as this relaxed condition undoubtedly renders them more susceptible.''

I will not weary you further with any more quotations, but I wish simply to briefly sum up what we have learned from them.

The first thing is that it is much more correct to speak of post-operative pneumonia than of post-anæsthesia, or ether pneumonia; for statistics show that pneumonia following operations was as frequent, or more so, before the days of anæsthesia than at the present time; and, also, that it is as frequent now, (at least after some kinds of operations) when local anæsthesia is used for major operations, as when a general anæsthetic is employed. A general anæsthetic, therefore, does not materially increase the danger of pneumonia following operations, if the lungs are in a healthy condition.

The next important thing we have learned is that pneumonia is much more liable to follow abdominal operations, especially those involving the gastro-intestinal tract; also operations involving the mouth or throat.

And, thirdly, that if pneumonia is more liable to follow the use of ether than it is that of chloroform, which is at least a question, the difference is so slight that it does not begin to counteract the much greater danger with which the administration of the latter is associated.

Finally, from a knowledge of the possible causes, what means of prophylaxis can we employ?

To begin with, we must be sure that we have a pure drug, and that the inhaler. or whatever we use in its place, is perfectly clean. What seems to me the best method of administering ether—best because it is simplest—is to use several thicknesses of plain gauze placed over the mouth and nose, and on this the ether is dropped. This can be sterilized before using, and afterwards it is destroyed. Every possibility of infection by means of the inhaler is thus eliminated.

Of great importance is the care with which the anæsthetic is given. It is often said that anybody can give ether, simply because it is so safe, but, doubtless, this feeling of comparative safety is the indirect cause of much of the subsequent trouble, when it does occur; for as a result of it, the anæsthetic is often entrusted to the incompetent or the inexperienced.

In almost all operations the anæsthetizer holds a much more important and responsible position than does the operator's assistant. That this fact, however, is not generally recognized is proven by the fact that by many doctors almost any one is considered competent to give the anæsthetic, even a medical student or a nurse; and by the small fee the anæsthetizer gets compared with that of the assistant.

The anæsthetic should be given slowly till the patient is thoroughly under its influence, and then enough should be given to keep him in that condition, for it is during the struggles which occur when only partially anæsthetized that the danger of aspirating some foreign substance into the lungs is the greatest. On the other hand, it is important to avoid giving too much of the anæsthetic, for there can be no question but that profound narcosis must depress the vital functions, and thus make the patient less able to resist infection.

Since becoming chilled, either during or after an operation, may certainly act, at least, as a predisposing cause, it is very important to avoid anything of the kind by having the operating room warm and free from draughts, the patient covered as completely as possible, and especially well protected when being removed from the operating room, before which all damp garments should be taken off, the patient dried with towels, if the skin is moist, and a dry night-dress put on.

During anæsthesia, especially if there is any tendency to become choked, the patient's head should be kept lower than the rest of the body, and turned to one side; when recovering from the effects of the anæsthetic, the head should always be kept on one side on a level with, or somewhat lower than, the rest of the body; never on a pillow.

In order to avoid hypostatic congestion, especially if there is any previous tendency in that direction, the patient's position should be changed as soon as possible after the operation, even if it is only by raising first one side and then the other, by means of a pillow, due regard being paid, of course, to the requirements of the after treatment of the operation itself.

If these precautions are carefully carried out, we shall find that post-operative pneumonia is such a rare condition that the fear of it will almost cease to be a factor in our calculations when we come to consider the subject of operation or of the choice of an anæsthetic.

REFERENCES.

1. Ashhurst—Principles and Practice of Surgery, 1893, p. 88.
2. Philadelphia Med. Journal, June 14, 1902.
3. Ashhurst—Principles and Practice of Surgery, 1893, p. 90.
4. La Semaine Medicale, March 5, 1902.
5. La Semaine Medicale, Oct. 22, 1902.
6. Gazet—Hebdomodaire de Med. et de Chirurg, March 6, 1902. See Philadelphia Medical Journal, Nov. 8, 1902.
7. Archiv. fur Klinische Chirurgie, No. 2, Vol 64, 1901. See Philadelphia Medical Journal, Nov. 23, 1901.
8. American Medicine, Nov. 15, 1903.
9. Munschaer Medicinische Wochenschrift, Aug. 21, 1900.
10. Journal of the American Medical Association, Nov. 1. 1902.

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Twenty-Six Cases of Typhoid Fever Treated with Acetozone at the Maryland General Hospital, with but one Fatal Result.

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The accompanying table embodies a report of a series of twenty-six cases of typhoid fever treated in the Maryland General Hospital during the autumn of 1902, in which the only medicinal remedy used, except an occasional laxative, was a solution of Acetozone in the strength of sixteen grains to a quart of water, four ounces of which was given every two hours.

It is proper to state that the usual liquid diet of milk, egg-albumen, animal broths, fruit juices and sterilized water, was given, and that hydrotherapy was used generally by cold packs and less frequently by tubbing, when the temperature rose to 102 deg. F.

One case of the twenty-six died of acute edema of the larynx and trachea, giving a mortality of 3.8 per cent. from this complication.

The average age of the twenty-six patients was twenty-five years; the average duration of illness before entering the hospital was five and one-half days; the average duration of the fever after beginning the Acetozone treatment was eighteen and one-third days; the average duration of the whole illness was twenty-three days.

The cases were cared for by my assistants, Drs. E. D. Warren, Wm. A. Neild and E. M. Parlett, of the House staff, to whose faithful attendance and kind assistance I am indebted for this report, which is submitted without comment.

Number of Cases.	Age.	Days sick when admitted.	Widal Test.	Diazzo—	Spleen Palp.	Roseola.	Epistaxis.	Days of Fever after Acetozone was given.	Complications.	Result.	Duration Illness Days.	Remarks.
1	28	6	x	x	—	x	—	28	Tuberculosis.	Recovery,	35	
2	15	8	x	x	x	x	—	40	2 Delirium, Furunculosis, Typhoid Spine.	Recovery,	48	Includes a relapse of nine days.
3	23	8	x	x	x	x	x	15	....	Recovery,	23	
4	49	10	x	x	x	x	x	17	Delirium.	Recovery,	27	
5	19	4	x	Doubt	—	x	—	..	Bronchitis, Edema, Trachea.	Death,		Cause of death—Edema, Larynx and Trachea.
6	26	7	x	x	—	—	—	15		Recovery,	22	
7	35	8	x	—	x	x	—	16		Recovery,	24	
8	37	7	x	x	x	x	—	7		Recovery,	14	
9	50	2	x	x	—	x	—	11		Recovery,	13	
10	20	7	x	—	—	x	—	2		Recovery,	9	
11	18	8	x	x	—	x	—	12		Recovery,	20	
12	28	3	x	x	—	x	x	15		Recovery,	18	
13	18	5	x	x	x	x	—	17	Renal and Furunculosis complication	Recovery,	22	
14	16	5	x	—	—	x	—	4		Recovery,	9	
15	20	1	x	x	x	x	—	18		Recovery,	18	
16	17	4	x	x	x	x	—	30		Recovery,	34	Includes relapse of eight days.
17	28	2	x	—	—	—	—	9		Recovery,	11	
18	16	14	—	x	x	—	—	10		Recovery,	24	
19	22	7	x	x	x	—	—	5		Recovery,	12	
20	21	3	—	—	—	—	—	6		Recovery,	9	
21	28	5	x	x	x	x	x	24		Recovery.	29	
22	31	10	x	x	x	x		44		Recovery,	54	
23	23	2	x	x	—	x	—	32	Furunculosis.	Recovery,	34	Includes relapse of eight days.
24	24	4	x	x	x	x	—	26	Hemorrhages, 3	Recovery,	30	Includes relapse of ten days.
25	22	7	x	x	—	x	—	55	Hemorrhages, 5 Furuncolosis.	Recovery,	62	Includes relapse of fifteen days. Gives history of a previous attack. Acetozone discontinued on 47th day.
26	18	1	—	x	—	x	—	19		Recovery,	20	

A Study of the Cases of Amoebic Dysentery Occurring at the Johns Hopkins Hospital.

Dr. T. B. Futcher, of Baltimore, Md., read a paper and gave the following summary, at the New Orleans meeting of the American Medical Association: (1) In nearly fourteen years 119 cases of amœbic infection had been admitted to the Johns Hopkins Hospital. Of these 118 were cases of amœbic dysentery or its complications, the remaining case being one of amœbic abscess on the floor of the mouth. (2) Of the 119 cases, 117 were admitted to the medical wards. During this time there were 15,817 medical admissions, the cases of amœbic dysentery consisting of 0.73 per cent. of the total. (3) Of the 118 cases of amœbic dysentery the infection of 82 was apparently contracted in Baltimore, and in 13 in the State of Maryland outside of Baltimore, or a total of 95 cases contracted within the borders of Maryland. (4) The largest number of cases occurred in the third decade, 35 having developed between twenty-one and thirty years of age. The youngest was a child of two years and eight months and the oldest a man of seventy-one. (5) A point of practical interest was the comparatively large number of infections in children under ten years. Eleven cases or 9.4 per cent. occurred in the first decade, 6 of these developing in the first hemi-decade. (6) The disease was much more prevalent in males; the series was composed of 107 males and only 11 females. (7) There were 107 whites and 12 blacks, or a proportion of 9 to 1. The ratio of all admissions for all diseases in the two races being 7 to 1. (8) A secondary anæmia of moderate grade occurred. A striking feature was the polycythæmia in many cases. A moderate leucocytosis existed; that in cases with hepatic abscess being only a trifle higher than that in uncomplicated cases. (9) Hepatic abscess occurred in 24 or 20.3 per cent. of the cases. Eight of these ruptured into the lung producing an hepato-pulmonary abscess. In 15 of these cases that came to autopsy 9 showed a single large abscess in the right lobe and 6 presented multiple abscesses. (10) Perforation of the colon with peritonitis occurred in 3 cases. (11) Intestinal hemorrhage occurred in three cases. (12) Five of the cases were complicated by malaria and one by a strongyloides intestinalis infection and two by typhoid fever. (13) The agglutination blood tests indicated that the disease was not associated with dysentery due to bacillus dysenteriæ shiga. (14) A marked feature of the disease was its tendency to relapse, 19 patients being readmitted one or more times. (15) The mortality was high, 29 or 24.5 per cent. terminating fatally. (16) Quinine irrigations afforded the most satisfactory means of treatment.

Examination of Milk by the General Practitioner.

Henry Larned Keith Shaw, M. D., (*Medical Record*, April 4th, 1903), believes that, by the method he suggests, both mother's milk and cow's milk can be carefully examined in about as much time as it takes to make a complete chemical urine analysis. The method the author suggests requires no special skill. The various steps of the proposed method are given in detail with a list of the apparatus needed for each step. The apparatus is simple and inexpensive. The general scheme of carrying out the analysis is as follows: (1) Acidity. The determination of the acidity is important, as it is an index of the bacterial contamination. This is done by using an alcoholic solution of phenolphthalein as the indicator, and titrating the milk to be tested, either with a decinormal solution of sodic hydrate, or with a saturated solution of lime water. (2) Specific gravity. Quevenne lactometers are recommended for this purpose. Those on the market, however, require too great a quantity of milk. The author has had special ones made. (3) The percentage of fat. For this the Babcock test is the simplest and the best. The ordinary centrifuge sold for making this test is unwieldy, and the author has had a special machine made for the use of physicians. (4) The percentage of sugar. The quantity of sugar is always nearly constant, and, therefore, need not be tested for. It can, if needed, be easily determined by the well known Fehling quantitative test. (5) Total solids. These may be determined from the specific gravity and fat percentage. The Babcock formula is the best to use for this purpose. It is simple and easy of application. (6) The percentage of proteids. This is obtained by subtracting the fat, sugar, and salt percentages from the total. (7) Preservatives. The one most commonly used is formaldehyde. The most reliable test for this substance is phloroglucine. One gramme of phloroglucine is dissolved in 100 cubic centimetres of distilled water. Ten cubic centimetres of the suspected milk are put in a test tube and to it are added 5 cubic centimetres of the phloroglucine solution. One cubic centimetre of liquor potassæ (U. S. P.) is then added, and a pink color develops at once if formaldehyde is present. The determination of other preservatives takes time and requires special skill. Their presence, however, should be strongly suspected if the milk remains sweet to the taste and smell while its acidity is as high as three tenths of 1 per cent.

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THE PHYSICIAN AND THE TOY PISTOL.

Annually there occurs a slaughtering and suffering from the effect of wounds received during the outburst of the so-called patriotic display on, or observance of, the National birthday, the Fourth of July. Firecrackers and the toy pistol come in for the largest share of the cause of the mortality and pain which follows the day, r, more definitely, that period of the year. The reports of the medical press up to the date of this writing show a mortality from this source of 227 deaths besides the large number of maimed and otherwise injured persons, without the estimation of loss of property in the observance of the day.

Regarding the toy pistol, it's ravages, like Tennyson's "Brook," "Go on forever."

The principal method of death for this supposed innocent toy occurs in the shape of tetanus; of which this form of disease alone, the report chronicles 175 deaths, and that record is undoubtedly below the actual number, as a result of these toy pistol wounds, since the data is imperfect by the fact of various cases not being reported, either to the secular or medical press.

The very important consideration and concern is to bring about the cessation of this slaughter and maiming. Various State and municipal authorities have passed ordinances opposing the sale of these dangerous objects, and yet the evil continues.

The New York Medical Journal, July 18th, 1903, remarks editorially, "The toy pistol must be suppressed, or else we must be content to go on witnessing an enormous tetanus mortality every July."

Always there arises a resistance to measures when they appear in the form of law. Therefore a most important adjuvants presents, which will enable the statutes to be effectual, and that is education. This education must come through the public school teachers and the family physician.

The individual who has most to do and is most responsible, in the case, is the parent of the child into whose hands the toy pistol may come. There are but a very few parents, comparatively speaking, who are fully awake as to the danger which lurks behind the paper cap in the toy pistol; only those directly observant of the terrible contortions of a case of tetanus are in any way able to fully realize the suffering which lies in waiting. Reading the reports in the daily newspaper have but scant impression on the masses; and by the arrival of another national anniversary have entirely forgotten the danger.

This matter is for the public school teacher and the family physician, to impress in a forceful way upon those with whom they professionally come in contact. Let every school teacher inform him or herself of the data upon this subject from some reliable and wide awake physician. Let the subject receive due consideration at the annual teachers' institute or convention of every county of our nation, thus educating the teachers that they may carry the truth personally to their pupils and indirect to the parents.

Let every family physician impress, when the opportunity presents, the cold truths of the matter with a vivid picture of the possible hideous case of tetanus from the toy pistol, and the whole death-dealing class of explosions, and the sale of the toy pistol will cease for the want of purchasers, and the day will come when the records of hundreds of deaths and suffering will be absent. Then will the national anniversary be celebrated in a different manner; in a form befitting a civilized and intelligent nation.

THE MOUTH IN RELATION TO DISEASE.

The inspection of the mouth, especially the tongue, as a clinical procedure has been a routine practice from time immemorial. That the mouth has constituted a causative relation to pathological evils or conditions has attracted the attention and consideration of members of the medical profession for some years, and lately much investigation has been conducted in searching for the cause and effect of this germ-laden cavity. Under the most favorable conditions the mouth may prove to be the source of harm when it is not treated in a proper manner to destroy the degenerating material which naturally accumulates through the environments of that organ during the day.

Dr. Hunter, of London, in a monograph, details observations which led him to believe that pernicious anemia was often produced by infection of the stomach from an unclean mouth.

It is a recognized condition that when caries of the teeth exist there cannot be that complete and thorough mastication of food material, as the result of two definite conditions, the absence of the normal grinding surface and the sensitive or painful accompaniment of the process of chewing by reason of the exposed dental nerve, thus causing a failure in the complete and accurate maceration of the food and preventing the proper admixture of the salivary secretion.

One of the causes of caries of the teeth is the acid which are the products of fermentation and chemical decomposition of food and other matter in the mouth; also acid mucus secreted by the gums.—American Text-Book of Surgery.

Dr. D. D. Smith, Proceedings of Philadelphia County Medical Society, (Journal American Medical Association, Jan. 31, 1903) notices the particular increase of dental disease, which he thinks has much to do with the general health. The kidneys, he holds, are especially affected in pyorrhæ, and he says, every mouth with teeth in the natural state, untreated, is constantly breathing out infection. With mouthly prophylaxis he has been able to stop decay, and finds decided benefit in many cases, such as nervous dyspepsia, &c.

Dr. Roughton, in the Lancet for Oct. 25, 1902, calls attention to antiseptic treatment of the mouth, not only because by this means dental caries, and so indirectly indigestion is put aside, but also in that way true secondary infection is avoided.

Dr. W. C. Hollopeter, of Philadelphia, in an article in the Journal of the American Medical Association, Jan. 31, 1903, "Some Unappreciated Causes of Anemia in Childhood," says: "I have long felt that the gastro-intestinal tube was at fault, more than the effect of the irritating food, and that these conditions might be avoided if the child possessed a clean mouth and its personal hygiene was all that we could desire. Dental decay furnishes more cases of anemia, is more prevalent, is least appreciated of all the diseases of childhood."

With such considerations on the part of the writers and observers regarding the etiological factor which the mouth plays, it becomes the duty of every practitioner to make himself thoroughly familiar with the importance of this matter; especially to know all of the possible pathological changes which may result from the faulty conditions and to make himself master of methods of caring for and keeping the mouth in the most aseptic condition or as near so as it is possible to have maintained.

Dr. Smith, in the article cited above, advises the removal of all concretions, calcic deposits, semi-solids, bacterial plaques or inspesations of the teeth, between them and the gum margins, and frequently polishing the teeth by hand methods, proximal surfaces to be cleaned, using orange wood points, in suitable holders charged with finely ground pummice stone as a polishing material.

Dr. Roughton advises that all decayed stumps shall be removed, that the teeth shall be cleaned carefully by a dentist, and that a mouth wash composed of a grain of bi-chloride of mercury in an ounce of cologne water to be given the patient with instructions to add a teaspoonful of this to a wineglassful of water, and use it as a mouth wash, thoroughly, several times a day, care being taken of course that none of it be swallowed. It would be a wise precaution to rinse the mouth with warm boiled water as a finish to the toilet, when this drug is used.

Let all those who have the opportunity of making these observations to persistently continue the study of this matter and to see that all valuable new points be made public.

CAUTION IN SELECTION OF CASES OF TUBERCULOSIS FOR SANITORIUM TREATMENT.

To-day the sanitorium method for the care of tuberculous patients is the recognized and authoritatively endorsed plan which promises to do the most for that large afflicted class, the tuberculous; and in the end to help free the human family of this dread scourge, as Bunion styles it the "Captain of the men of Death." It is earnestly desired that this effort will prove serviceable and be crowned with success in the object sought; that it will not only cure and preserve those who are affected, but that it will help eradicate the disease from the face of the earth. There is no doubt that much will be accomplished to the benefit and comfort of many persons who are already affected.

Dr. Stockdale, of Whitehaven, Pennsylvania, Superintendent of Whitehaven Sanitarium of the Free Hospital for Poor Consumptives, in a paper "Sanitorium Treatment," in Pennsylvania Medical Journal for July, 1903, after describing the results of the work at the sanitarium, says: "The work at Whitehaven proves that tuberculosis is curable under the poorest surroundings, if given the proper food, plenty of fresh air and proper supervision."

Besides the move will be an educator to the mass of people who will thus learn that the disease is recognized as one which may be acquired by infection and thus be induced to observe the proper caution regarding their contact with the disease, inducing them to learn and accept measures intended to safeguard them from the infectious germs of the disease.

One very important matter to be observed in relation to Sanitorium treatment and its suceessful work, is that the utmost precaution must be carried out in the selection of individual patients who are to be sent to such a resort.

There is much force in the article of Dr. Stevens in the August number of this Journal, "Things to Consider before Sending the Tuberculous Patient away from Home," when he cites the frequency where physicians connected with or are familiar with the conditions which exist in climatic resorts, in which they must be impressed with the fact "that in very many instances the family physician has not duly considered all things that he should consider before sending his patient away from home."

Every side of the patient's condition should be well considered; the pathological stage of his disease, his wishes in the matter, his financial and physical ability to take the course, the probability for cure—in fact, every phase of the condition of the individual patient should be considered before he is advised to go to the resort or sanitorium.

Dr. Stockdale, in the article above quoted, well remarks: "A physician should really consider carefully before sending a case so far away from home to a place strange and new, and it would be well if all physicians would make it a rule of never sending a patient to a place unless they were perfectly familiar with it, the expense, &c., for in that case we would not find so many of our people stranded in the west, or coming home to die with several hundred dollars wasted."

The utmost precaution should be observed in every community, by every sanitorium, that none be admitted that cannot possibly be benefitted, and by every family physician, that those who are beyond the possibility of benefit and cure should not be sent to a sanitorium or away from home, only to be hurried on by the effort which they put forth under an exerted effort over enthusiasm or erroneous expectation.

In every county, the local County Medical Society should have charge of sanitary matters and should appoint special examining physicians to examine and confer with the family physician regarding the cases to be sent to such a resort, and where there is no society the sanitorium should appoint physicians of known ability to make such examinations; and thus not only protect the individual from an unnecessary expense and cruel disappointment, but also to protect the institution or resort from the harm which would accrue from a record of a too frequent death rate by consumption of unfit cases indiscretely admitted.

HEREDITARY CHOREA.

Little has been written of late about this interesting nervous disease, yet in some parts of the country it is quite prevalent and always tends to a fatal termination by exhaustion after long years of slow progression. That it is spreading or becoming more frequent, we cannot affirm upon the data we have at present. On the contrary the natural tendency would seem to be to its final extinction, as it usually shows itself at about the beginning of the procreative period of life, and sexual activity is the first of the normal functions to fail. Its apparent increase in the latter eighties and early nineties was probably due to the unusual interest excited by its re-discovery in 1885 and the reporting of other cases in different parts of the world which immediately followed.

The first mention of the disease in medical literature was made in a private letter by Dr. C. O. Waters, of Franklin, N. Y., written in response to an inquiry for information from Prof. Robley Dunglison, of Philadelphia, and published by him in his classical work upon the "Practice of Medicine." That letter was dated May 5th, 1841, and contained all the important facts about the disease that are known to-day. Yet his letter excited little interest, and but one or two other authors made mention of the disease before Dr. George Huntington, also an American, apparently without knowledge of Dr. Waters' observations, gave a clear and concise description of the malady in a general paper on chorea, which he read before the Meigs and Mason Academy of Medicine at Middleport, Ohio, on Feb. 15th, 1872. Nor are we able to find but two other papers on the subject following this until Clarence King in an inaugural thesis presented to the University of Buffalo, in 1885, without knowledge of the previous publications descriptive of the disease, gave perhaps a fuller account and published history of three cases which had been under his observation for years.

Since then numerous other papers have appeared in the medical journals in this country and in Europe, notably among them being those of King in 1886 and 1889; Huber in 1887; West in 1887; Sinkler in 1889 and 1892; Diller in 1889 and 1890, and Phelps in 1891. Diller, in citing Huntington's paper, spells his name with "d" instead of "t," and Osler and a few other authors follow his spelling, some giving the disease the name of Huntingdon's Chorea. But the attaching of any author's name to designate a disease should not be encouraged, however just or convenient it may be as regards special operations or methods.

The pathology of the disease is yet shrouded in doubt, although there have been two or three autopsies made on patients who have finally died of exhaustion or of some concurrent malady. These, however, have revealed nothing of a positive nature, the lesions found not being the same in each case. Doubtless, if discovered, they will be microscopical and of such a nature as to make it impossible to successfully combat them during life. Further study will also be required to determine the etiology of the disease, as well as in what way it differs from the ordinary form of chorea. The question has been raised whether or not we ought to consider the hereditary form as a distinct disease by itself or as a peculiar modification of the more common type of chorea. Obviously the final decision of this question must await the pathologist, but at present there is nothing to incline us to the former view. Nothing has yet been found of any avail in treatment.

SHOULD THE DOCTOR ACT AS A DETECTIVE?

Recently some very interesting cases have appeared in the courts in which the Doctor made use of his special knowledge and circumstances to reveal a criminal act. In one case the defense inferred that the Doctor was a participant in the crime, and the result was a most vexatious and expensive effort to prove his innocence. This physician wrote a sharp paper declaring emphatically that a doctor above all others should be noncommittal and attend strictly to his professional business and avoid all complications with crime and criminals. In England, recently, a judge censured a physician and disallowed his expenses on the ground that he had not acted as a detective, or been diligent in assisting the authorities to arrest the criminal. It is evident that there is some difference of opinion concerning the duty of a physician in circumstances where it is possible for him to detect a crime. Some time ago a prominent physician in Boston was asked to attend a case requiring surgical dressing. He consented to be blindfolded at the entrance of the house where his services were required. Later it appeared that an assault had been committed which ended in death. The doctor was blamed for not reporting this case. He defended himself with spirit, but the legal authorities considered it a great breach of ethics. The general course seems to be understood and practiced among the leading physicians of large cities to confine themselves strictly to their professional work, and pay no attention to the circumstances or conditions of an apparent crime unless it is possible from the indications to prevent it. When called to treat a wound, the conditions under which the wound was received can be of little value except for the purpose of treatment. The physician should always protect the patient from the publicity which the accident might create. Where a physician is called to see a person dying or dead, in which the causes are not clear to him, it is clearly his duty to report such cases to the authorities, but it is not good taste to assume the part of a detective and join an inquiry concerning the causes of the injury or death. Many years ago a physician was informed that a certain crime had been planned and would take place the next day. He failed to reveal this to the authorities, and on the trial he was held to be guilty by reason of not communicating the facts and assisting in preventing it. Each case undoubtedly suggests to the physician the course he should persue. In all cases the physician should remember that he is a scientific man and not a detective, but that he is a philanthropist, and all his conducts and acts should seek to enhance the welfare of the community as well as himself.

THE PULSE AS A SIGN OF DISEASE.

In the days of our forefathers the pulse was one of the most eargerly sought signs to determine the condition of the patient. A curious student of medicine made a record of 3,000 articles on the pulse and 400 pamphlets with 22 volumes large and small describing the different forms of pulse and their meaning. The Chinese have carried the study of this symptom to great extremes. They have pointed out nearly twenty different forms of pulse taken in different parts of the body, each having a special meaning and pointing to a particular disease. The modern physician still feels the pulse and studies the heart's impulse for indications, but has less confidence in it as an exclusive sign of disease. The sphygmograph has done much to clear up the obscurity which has infested this subject. We now know that an almost infinity of influences disturb the heart's action and is registered in the pulse. The list of functional diseases of almost every organ of the body is registered by the pulse. Intermittancy of the heart beat is by no means a dangerous sign, and may occur in a perfectly healthy person and disappear from the removal of some exciting cause. A high pulse is very often noted and a very low pulse, both of which may be insignificant. In estimating the value of the pulse, a consideration of the mental and physical condition of the patient is absolutely necessary to determine its meaning. Dr. Dickinson has recently shown that in many instances the arterial circulation is so unstable that thought and slight muscular effort continually modify the beat and impulse of the blood current. In a history of many cases the record of the pulse is of little moment compared with the temperature of the body.

Book Notices.

A Dictionary of Medical Science. Containing a full explanation of the various subjects and terms of Anatomy, Physiology, Medical Chemistry, Pharmacy, Pharmacology, Therapeutics, Medicine, Hygiene, Dietetics, Bacteriology, Pathology, Surgery, Ophthalmology, Otology, Laryngology, Dermatology, Gynecology, Obstetrics, Pediatrics, Medical Jurisprudence, Dentistry, Veterinary Science, etc., by Robley Dunglison, M. D., LL. D., Late Professor of Institues of Medicine in the Jefferson Medical College of Philadelphia. New (twenty-third) edition, thoroughly revised, with the pronunciation, accentuation and derivation of the terms, by Thos. L. Stedman, A. M., M. D., Member of the New York Academy of Medicine. In one magnificent imperial octavo volume of 1224 pages, with about 600 illustrations, including 85 full-page plates, mostly in colors, with thumb-letter index. Cloth, $8.00 net; leather, $9.00 net; half morocco, $9.50 net. Lea Brothers & Co., Philadelphia and New York.

A dictionary which has held its own through twenty-two editions and has satisfied the requirements of the medical profession for three-quarters of a century has become an indispensable institution. The very name *Dunglison* has long been synonymous with medical lexicography, and through this crowning work of his life this great genius, whose knowledge embraced all departments of the science, has been enrolled with *Johnson*, *Webster* and *Worcester*.

A glance through the successive editions of this work brings home the marvelous advances of medicine during the past seventy-five years, a gain more than equal to the total medical knowledge recorded during the entire previous history of mankind. The number of new words in this edition, after the exhaustion of its predecessor in the short space of three years, shows that each day adds two terms to the science. Progress accelerates itself, and as medicine is now definitely proceeding in the line of precision, its terminology is growing not only in quantity but also in quality, so that it becomes increasingly important for both students and practitioners to keep always conversant with the latest words and meanings.

With this constant increase in the number of medical terms, the editor's chief problem has been economy of space. In the present edition it was necessary to accommodate not only all the new words but also the illustrations, now first introduced. These are almost indispensable in explaining certain subjects which defy definition in a few words, but they are enormous consumers of space. The problem was solved by eliminating everything obsolete, or of only indirect bearing upon medicine. Several advantages result from this procedure: old words omitted may be understood to be dying or dead as far as modern medicine is concerned; living words may be found more easily in the absence of dead matter, and the bulk of the volume is kept down to the limit of convenience.

A distinguishing feature of the successive editions of this dictionary has been the explanatory fulness and encyclopedic nature of its definitions. As the author wrote in the preface to the second edition, his object "was not to make the work a mere lexicon or dictionary of terms, but to afford under each a condensed view of its various medical relations, and thus to render the work an epitome of the existing condition of medical science." It has been the editor's purpose to preserve in the new matter this characteristic of the work, and not to give merely a bald definition or array of synonyms, but to *explain* the subject denoted by the term.

The labor of revision has been performed with laudable ability and conscientiousness by Dr. Thomas L. Stedman, whose editorship of the medical terminology of the Standard Dictionary amply proclaimed him as well fitted for the task.

As indicated on the title page, this dictionary is intended to be a book of universal service for all men, undergraduates and graduates, interested in any of the medical sciences. The desire for accuracy in every department led the publishers to engage Professor Leonard Pearson to revise the veterinary terms, and the brilliant and lamented Dr. H. H. Burchard those in denistry. This new edition continues to be enriched by the work of these gentlemen.

A Text-Book of Obstetrics. By J. Clarence Webster, M. D. (Edin.), F. R. C. P. E., F. R. S. E., Professor of Obstetrics and Gynecology, Rush Medical College, in Affiiliation with the University of Chicago; Obstetrician and Gynecologist to the Presbyterian Hospital, Chicago; Obstetrician to the Chicago Lying-in-Hospital and Dispensary, Chicago, etc., etc. Handsome octavo volume of 767 pages, with 383 illustrations, 23 in colors. Philadelphia, New York, London: W. B. Saunders & Company, 1903. Cloth, $5.00 net; Sheep or Half Morocco $6.00 net.

This work has been written for the student of obstetrics, as well as for the active practitioner. The anatomic changes accompanying pregnancy, labor, and the puerperium are described more fully and lucidly than in any other text book we have seen. The exposition of these sections is based mainly upon studies of frozen specimens, in which department the author has had a larger experience than any other worker. Unusual consideration is given to embryologic and physiologic data of importance in their relation to obstetrics. The practical aspects of the subject are presented in such a manner as to be of direct assistance to the clinician. Diagnosis and treatment are presented with rare exactitude and clearness, particular consideration being given to those methods that have proved most successful by experience. The illustrative feature of the work is far above the average. Evidently great care was taken in the selection of the illustrations, aiming to meet the varied requirements of both the undergraduate and the practicing physician. Many of the illustrations are entirely original, having been made especially for this work, and never having appeared in any other textbook. The work throughout expresses the most advanced thought of the day, and the statements can be relied upon as accurate. We heartily recommend Dr. Webster's book to student and practitioner.

American Text-Book of Surgery. For Practitioners and Students. Edited by William W. Keen, M. D., LL. D., F. R. C. S. (Hon.) Professor of the Principles of Surgery and of Clinical Surgery, Jefferson Medical College, Philadelphia; and J. Wm. White, M. D., John Rhea Barton Professor of Surgery, University of Pennsylvania, Philadelphia. *Fourth Edition, Thoroughly Revised and Greatly Enlarged.* Handsome octavo of 1363 pages, with 551 text-illustrations and 39 full-page plates, many in colors. Philadelphia, New York, London: W. B. Saunders & Co., 1903. Cloth, $7.00 net; Sheep or Half Morocco, $8.00 net.

Of the three former editions of this work nearly 40,000 copies have been disposed of. Its sale, indeed, has been the wonder of the medical publishing world. In this present edition every chapter has been extensively modified, and many of them have been partially, and some entirely, rewritten. Notably among such chapters are those on Surgical Bacteriology, Tumors, the Osseous System, Orthopedic Surgery, the Surgery of the Nerves, the Joints, the Abdomen, etc. The most recent researches of Monks on the Intestines, Crile and Cushing on Shock and Blood Pressure, Matas on Neural Infiltration and Aneurysm, Edebohls on Renal Decortication, etc., have been included. The use of paraffine in nasal deformities, the methods of spinal and local anesthesia, and the newer anesthetics have also been described. And this is but an illustration of the completeness and thoroughness of the entire work.

Besides the extensive revision and amplification of the old matter, there have been added six new chapters of the utmost importance, written by men whose positions and experience especially fit them to speak with authority. These chapters are Military Surgery, Naval Surgery, Tropical Surgery, Examination of the Blood, Immunity, and Surgery of the Pancreas. Though there was a brief chapter on the Pancreas in the third edition, in this present edition it has been expanded so greatly that it really is wholly new, the modern surgery of the Pancreas having been created since the last edition. A number of the old illustrations have been replaced by better ones, and, in addition, there have been added a number entirely new. In fact, we know of no single volume work that is even its equal in the expounding of the advanced and practical principles of modern surgery.

A Text-Book of Operative Surgery. Covering the Surgical Anatomy and Operative Technic Involved in the Operations of General Surgery. Written for Students and Practitioners. By Warren Stone Bickham, Phar. M., M. D., Assistant Instructor in Operative Surgery, College of Physicians and Surgeons, New York; Late Visiting Surgeon to Charity Hospital, New Orleans, etc. Handsome octavo of 984 pages, with 559 illustrations, entirely original. Philadelphia, New York, London: W. B. Saunders & Co., 1903. Cloth, $6.00 net; Sheep or Half Morocco, $7.00 net.

This work completely covers the surgical anatomy and operative technic involved in the operations of general surgery. It is constructed on thoroughly new lines, the discussion of the subject being remarkably systematized and arranged in a manner entirely original. A feature of the work to which we would call especial attention, and for which alone it is well worth the price, is the wealth of magnificent illustrations. There are 559 of them, all entirely original. They depict the progressive steps in the various operations detailed with unusual clearness, and at the same time represent the highest artistic excellence. The text is fully abreast of the latest advances in surgery, all the recent improvements along the line of technic being adequately discussed. Another feature distinguishing it from other works on operative surgery, is the treatment of the anatomic side of the subject in

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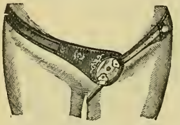

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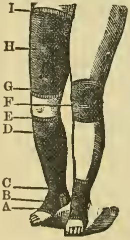

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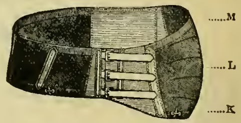

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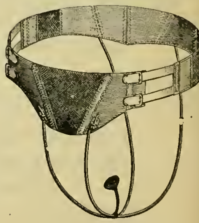

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Gonorrheal Cystitis in Women.

In the treatment of this affection, Dr. C. D. Lockwood, of Los Angeles (Cal.) has found a most excellent remedy in a 1.5 suspension of ichthyol in glycerin. A urethroscopic tube is introduced through the urethra, and an application made first to the trigone by means of an applicator dipped in the ichthyol mixture. The endoscopic tube is then withdrawn until the applicator projects about an inch beyond the lumen of the tube within the urethra. The applicator and tube are now slowly withdrawn, maintaining the same relative position. In this way the walls of the urethra are kept on the stretch, and all folds smoothed out, so that the applicator following thoroughly swabs the entire canal. This treatment is given every other day, until stained specimens no longer show gonococci.—Southern Cal. Pract., xviii, No. 4.

Sanmetto in Enlarged Prostate, with Suppression of Urine, and Chronic Inflammation of Bladder.

I have used Sanmetto in enlargement of the prostate, suppression of urine and chronic inflammation of the bladder, and can recommend its use for any and all of the troubles of the urinary tract.—J. A. Wilson, M. D., Columbus, Ohio.

connection with the operative technic. The illustration will be found of particular assistance in this connection, the muscles, bones, etc., being clearly indicated, together with the lines of incision. It is a magnificent work, and we have yet to see its equal.

The American Pocket Medical Dictionary. Edited by W. A. Newman Dorland, M. D., Assistant Obstetrician to the Hospital of the University of Pennsylvania. Containing the pronunciation and definition of the principal words used in medicine and kindred sciences, with 566 pages and 64 extensive tables. *Fourth Revised Edition, Greatly Enlarged.* Philadelphia, New York, London: W. B. Saunders & Co., 1903. Flexible leather, with gold edges, $1 00 net; with thumb index, $1.25 net.

In this little work, now in its fourth edition, we have a pocket dictionary equaled by none on the market. It is a wonder to us how the editor has gotten so much information in such a small space. In this edition several thousand of the newest terms that have appeared in recent medical literature have been added, and the entire work subjected to a careful revision. Since the work has come to us for review, we have had many occasions to refer to it for definitions of new words, and in no instance have we been disappointed. We believe that the work in its new form will meet more fully than ever a real demand on the part of physicians and students.

A Text-Book of Clinical Anatomy. For Students and Practitioners. By Daniel N. Eisendrath, A. B., M. D., Clinical Professor of Anatomy in the Medical Department of the University of Illinois (College of Physicians and Surgeons); Attending Surgeon to the Cook County Hospital, Chicago, etc. Handsome octavo of 515 pages, beautifully illustrated with 153 illustrations, a number in colors. Philadelphia, New York, London: W. B. Saunders & Co., 1903. Cloth, $5.00 net; Sheep or Half Morocco, $6.00 net.

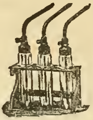
The subject of anatomy, and especially clinical anatomy, is so closely allied to practical medicine and surgery that it is absolutely impossible for a physician or surgeon to practice his profession successfully unless he have an intimate knowledge of the human structure. In his preface the author states that the primary object of his work is to serve as a bridge for both the practitioner and student from descriptive anatomy, as it is usually taught in the first two years of a medical course, to its daily application at the bedside, in the clinic, or in the operating room. The entire subject is discussed with a thoroughness and precision that spring from experience. The method of illustrating the subject is novel, special attention having been given to surface anatomy. The illustrations themselves are the result of a great deal of painstaking study, outlines having been marked upon a normal artist model, and then photographed. They are reproduced in the highest style of art, and show far better than any we have seen the relation of anatomic structures from a clinical standpoint, presenting to the practitioner a picture as met at the bedside, with the skin covering the tissue. The work is indeed magnificent text, illustrations, paper, typography, and binding being of unusual excellence.

Clinical Examination of the Urine and Urinary Diagnosis. A Clinical Guide for the use of Practitioners and Students of Medicine and Surgery. By J. Bergen Ogden, M. D., formerly Instructor in Chemistry, Harvard University Medical School, Boston; Assistant in Clinical Pathology, Boston City Hospital, etc. *Second Revised Edition.* Handsome octavo volume of 418 pages, illustrated, including 11 plates, 9 of them in colors. Philadelphia, New York, London: W. B. Saunders & Co., 1903. Cloth $3.00 net.

The aim of this work is to present in as concise a manner as possible the chemistry of the urine in its relation to physiologic processes; the most approved working methods, both qualitative and quantitative; the diagnosis of diseases and disturbances of the kidneys and urinary processes. It is a work eminently in demand, since most of the books on the urine are devoted exclusively to urinary chemistry, a knowledge of urinary diagnosis being obtainable only by an extended search through works on medicine, surgery, pathology and chemistry.

In this, the second edition, special effort has evidently been directed toward making the text complete and bringing it absolutely down to the present day advances in the subject. Important changes have been made in Part I, especially in connection with the determination of Urea, Uric Acid, and Total Nitrogen; and the subjects of Cryoscopy and Beta-Oxybutyric Acid have been given a place. The changes in Part II, while not so extensive, are nevertheless numerous and practical, and show that the author has spared neither pains nor time in making the revision thorough. It is a good book, and both student and practitioner will find it a valuable aid in their clinical work. We recommend it.

Surgical Chairs.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Nervous and Mental Diseases. By Archibald Church, M. D., Professor of Nervous and Mental Diseases and Head of Neurological Department, Northwestern University Medical School; and Frederick Peterson, M. D., President New York State Commissioner in Lunacy; Chief of Clinic, Department of Nervous Diseases, College of Physicians and Surgeons, New York. *Fourth Edition, Thoroughly Revised and Enlarged.* Handsome octavo volume of 922 pages, with 338 illustrations. Philadelphia, New York, London: W. B. Saunders & Co., 1903. Cloth, $5.00 net; Sheep or Half Morocco, $6.00 net.

This is the fourth edition of this excellent work in as many years. The revision, indeed, has been thorough, all the latest knowledge on the subjects having been incorporated, including the recent work regarding the healing of nerves. The subject of intermittent Limping, now definitely known to depend upon a lesion of the posterior root ganglia, and Herpes Zoster have been given a section each. Another addition is the discussion of that form of epilepsy marked by myoclonus, furnishing the so-called Combination Disease. Further importance has been given to symptomatology and symptomatic disturbances, and the diagnostic value of astereagnosis and of Kernig's Sign has been elaborated.

We also find that there have been added a large number of new and excellent illustrations. A useful addition to the portion of the book devoted to Insanity is a new section consisting of a critical review of the German Schools which have recently made such important advances in psychiatry.

In many ways this work will be found of unusual assistance not only to the specialist, but also to the student and general practitioner.

A Text-Book of Obstetrics. By Barton Cooke Hirst, M. D., Professor of Obstetrics in the University of Pennsylvania. *Fourth Edition, Enlarged and Thoroughly Revised.* Handsome octavo, 900 pages, with 746 illustrations, 39 of them in colors. Philadelphia, New York, London: W. B. Saunders & Co., 1903. Cloth, $5.00 net; Sheep or Half Morocco, $6.00 net.

In revising his work for this edition, the author has spared no pains to make the book reflect the latest knowledge on the subject. He has even described and illustrated the method of using the "Neumann-Ehrenfest Kliseometer." His perfect familiarity and extensive experience with diseases of women is shown in the careful and minute manner in which he describes the various methods of treatment. As most all the diseases of women are the consequences or complications of childbirth, their preventive treatment at least is in the hands of the obstetrician, and the physician in general practice must be equally well informed in both branches of gynecology. The specialist in obstetrics must be an expert in the surgical treatment of all diseases of women. Even a specialist who confines his work entirely to this treatment, must at least have served a long apprenticeship in practical obstetrics, and have mastered its science to be adequately prepared for his work. From the glimpse we have obtained of Dr. Hirst's knowledge of diseases of women, we wait anxiously for his new work on that subject. In this present work every page has been altered and bettered in some way. More attention has been given than in the previous editions to the diseases of the genital organs associated with or following childbirth, and this, we think, is an excellent improvement. Many of the old illustrations have been replaced by better ones, and there have been added besides a number entirely new. The work treats the subject from a clinical standpoint, the author ever keeping in mind that the aim of all medical literature is to cure.

The American Illustrated Medical Dictionary. For Practitioners and Students. A Complete Dictionary of the Terms used in Medicine, Surgery, Dentistry, Pharmacy, Chemistry, and the kindred branches, including much collateral information of an encyclopedic character, together with new and elaborate tables of Arteries, Muscles, Nerves, Veins, etc.; of Bacilli, Bacteria, Micrococci, Streptococci; Eponymic Tables of Diseases, Operations, Signs and Symptoms, Stains, Tests, Methods of Treatment, etc. By W. A. Newman Dorland, A. M., M. D., editor of the "American Pocket Medical Dictionary." *Third Edition, Thoroughly Revised.* Handsome large octavo, nearly 800 pages, bound in full flexible leather. Philadelphia, New York, London: W. B. Saunders & Co., 1903. Price, $4.50 net; with thumb index, $5.00 net.

The rapid exhaustion of two large editions cannot but be a gratifying proof to the editor and publishers that this excellent work meets the varied needs of physicians and students better than any other dictionary on the market.

In this the third edition several hundreds of new terms that have been added to the vocabulary of medical sciences have been incorporated and clearly defined. The entire work, moreover, has evidently been subjected to a careful revision, and many

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of the tables, notably those of Acids, Bacteria, Stains, Tests, Methods of Treatment, etc., have been amplified, and their practical value greatly increased. It is only by such constant and careful revision that a medical dictionary can hope to reflect the progress of medical science, and the usefulness of this work by this present revision has been very largely extended.

A Text-Book of the Practice of Medicine. By James M. Anders, M. D., Ph. D., LL. D., Professor of the Practice of Medicine and of Clinical Medicine, Medico-Chirurgical College, Philadelphia. Sixth Edition Thoroughly Revised. Handsome octavo volume of 1300 pages, fully illustrated. Philadelphia, New York, London: W. B. Saunders & Co., 1903. Cloth $5.50 net; Sheep or Half Morocco, $6.50 net.

This is the sixth edition of this unexcelled work in as many years. Such a sale cannot but be a gratification alike to the author and to the publishers. In this edition the general plan and principles of classification adopted in the previous editions have been preserved. The many tabular presentations of points in differential diagnosis have been retained. Differential diagnosis is a most important branch of diagnostics, and than this tabular method we know of no superior way of familiaizring the practitioner and the student with the outstanding features of simulating diseases. Malaria, yellow fever, bacillary dysentery, cholecystitis, certain animal parasitic diseases, and the use of the X-rays in diagnosis and treatment have been fully discussed, incorporating the results of the most recent investigations. Among the new subjects introduced are Paratyphoid Fever, the Fourth Disease, Trypanosomiasis Orthostatic, Albuminuria, Transcortical Aphasia, Adiposis Dolorosa, and Amaurotic Family Idiocy. Every affection has been treated separately, particular attention being paid to its clinical character, diagnosis, and treatment. Evidently an immense mass of literature has been thoroughly digested, no pains having been spared to bring the entire work down to date, giving special reference to the daily needs of practitioners and students.

In recommending it, we believe we are recommending the best text-book on the Practice of Medicine on the market.

A Text-Book of Diseases of Women. By Barton Cooke Hirst, M. D., Professor of Obstetrics in the University of Pennsylvania; Gynecologist to the Howard, the Orthopedic, and the Philadelphia Hospitals. Handsome octavo volume of 675 pages, sumptuously illustrated with some 650 mostly original illustrations, many in colors. Philadelphia, New York, London: W. B. Saunders & Co., 1903. Cloth, $5.00 net; Sheep or Half Morocco $6.00 net.

This latest work of Dr. Hirst's is on the same lines as his "Text-Book of Obstetrics." As would be expected from a practical teacher, diagnosis and treatment have been given particular attention. The palliative treatment, as well as the radically operative, is fully described, enabling the general practitioner to treat many of his own patients without referring them to a specialist. A feature which specially impressed us is the thorough manner in which the author has treated modern technic of gynecic surgery. An entire section is devoted to a full description of all modern gynecologic operations, illustrated and elucidated by numorous photographs taken especially for this work. The author's training in the subject of diseases of women has been like that of the specialists in the Teutonic countries of Europe, where gynecology has reached the highest level of perfection: namely, specialization in the diagnosis and treatment of diseases of women has followed a thorough training in the recognition and treatment of the complications and sequels of childbirth. This special training is evident throughout the entire work in the careful and thorough manner in which the subject is treated. The many illustrations are the most magnificent we have ever seen. With but few exceptions all are entirely original, having been reproduced from photographs and water colors of actual clinical cases accumulated during the past fifteen years. We must heartily congratulate Dr. Hirst and his publishers upon the production of such a magnificent work.

A Text-Book of Pathology. By Alfred Stengel, M. D., Professor of Clinical Medicine in the University of Pennsylvania. Fourth Edition, Thoroughly Revised and Enlarged. Octavo volume of 933 pages, with 394 text-illustrations, many in colors, and 7 full-page colored plates. Philadelphia, New York, London: W. B. Saunders & Co., 1903. Cloth, $5.00 net; Sheep or Half Morocco, $6.00 net.

In this work the practical application of pathologic facts to clinical medicine is considered more fully than is customary in works on pathology. While the subject of pathology is treated in the broadest way consistent with the size of the book, a successful effort has been made to present the subject from a clinician's point of view. In the second part of the work, the pathol-

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ogy of individual organs and tissues is treated systematically and quite fully under subheadings that clearly indicate the subject matter to be found on each page. In this edition the section dealing with General Pathology has naturally received the greatest care and the most extensive revision. Several of the important chapters have been practically rewritten. Among the subjects that have received the greatest revision are: Ehrlich's Theory of Immunity and allied processes; Inflammation; The Bacterial Diseases, including Typhoid Fever, Tuberculosis, Yellow Fever, and Dysentery; and Diseases of the Blood. In the second part of the book, that treating on Special Pathology—the revision has also been considerable, so that this part likewise represents the latest advances in the subject of Pathology. A very useful addition to the book is that of an Appendix, treating of the Technic of Pathologic Methods, and giving briefly the most important methods at present in use for the study of Pathology; including, however, only those methods that are unquestionably practicable. Many new illustrations, including ten excellent plates, have also been added, and some of the old replaced by new ones. We specially recommend the book to students and practitioners, as we believe it is the best we have seen.

A Text-Book upon the Pathogenic Bacteria. For Students of Medicine and Physicians. By Joseph McFarland, M. D., Professor of Pathology and Bacteriology in the Medico-Chirurgical College, Philadelphia; Pathologist to the Philadelphia Hospital and to the Medico-Chirurgical Hospital, Philadelphia. Fourth Edition, Rewritten and Enlarged. Handsome octavo volume of 629 pages, fully illustrated, a number in colors. Philadelphia, New York, London: W. B. Saunders & Co., 1903. Cloth, $3.50 net.

This work gives a concise description of the technical procedures requisite in the study of bacteriology, a brief account of the life histories of the important pathogenic bacteria, and sufficient description of the pathologic lesions accompanying micro-organismal invasions to give an idea of the origin of symptoms and the cause of death. Although but a short time has elapsed since the appearance of the previous edition, such rapid strides have been made in the subject of bacteriology, especially in its relation to pathology, that the author deemed it necessary to rewrite the work entirely. All the old matter has been eliminated, much new matter is in evidence, and, in fact, the subjects treated have been brought precisely down to date. What impressed us most were the chapters upon Infection and Immunity. All the new facts recently added to our knowledge of these subjects can here be found. The value of the work as a book of reference has been materially increased by the introduction of a large number of references to bacteriologic literature. These have been thoughtfully chosen, and, in nearly all cases, give the sources of the original descriptions of the micro-organisms treated, and the important methods described. Another valuable addition is a bibliographic index containing the names of over 600 authors. Altogether the work in its new edition is very commendable, and practitioners and students will find it of unusual value.

The Practical Medicine Series of Year-Books. Comprising Ten Volumes on the Year's Progress in Medicine and Surgery. Issued Monthly. Under the General Editorial Charge of Gustavus P. Head, M. D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School. Vol. VIII. Materia Medica and Therapeutics; Preventive Medicine; Climatology; Suggestive Therapeutics; Forensic Medicine. By G. F. Butler, M. D.; H. F. Favill, M. D.; Norman Bridge, M. D.; D. R. Brower, M. D.; H. N. Moyer, M. D. July, 1903. Chicago Year Book Publishers, 40 Dearborn Street.

About half of this volume is devoted to the subject of Materia Medica and Therapeutics. The progress of the year has been gone over carefully and new additions and new applications of our materia medica are discussed under their various headings, alphabetically arranged. This part contains a large amount of new and interesting matter. The other portions of the book are sufficiently comprehensive. Suggestive Therapeutics is carefully reviewed in its various phases by Dr. Brower, so as to present a useful resume of work in this field. The work in Preventive Medicine, Climatology and Forensic Medicine is brief but good.

Transactions of the Louisiana State Medical Society, at the Twenty-Second Annual Session held at New Orleans, La., April 18-20, 1902.

The usual list of officers, committees and members, as well as the transactions of the session are presented. In addition to these the volume contains, also, the papers read at the various sessions. The size of the volume, 467 pages, will give some idea of the abundance of valuable and interesting matter this volume contains.

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is the relief from the acute stinging pain of inflammations and eczematous eruptions about the muco-cutaneous margins when **Resinol Ointment** is applied. And a permanent cure is effected by this remedy with greater facility in all skin affections where a local application is indicated than by any other method. As a dressing for Burns, Carbuncles, etc., there is nothing approaches it.

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Jas. B. Johnston, M.D., Providence, R. I., writes: "I have given Thiocol in infancy and old age. It....does not disturb the stomach, and possesses greater therapeutic activity than any other combination of guaiacol or creosote."

Thiocol (Roche) is an odorless, water-soluble form of guaiacol and is marketed in three forms: Thiocol POWDER; Thiocol TABLETS, 5 grn.; and "SIROLIN" (Syr. Thiocol Roche)—all under the Merck label. Beware of imitations!

Clinical Reports to Physicians

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Literary Notices.

The Living Age of August 22d reprints from *The Quarterly Review* one of the most interesting articles which has yet appeared upon Pope Leo XIII. It is not written in a tone of indiscriminate eulogy, but it treats fairly and comprehensively the chief incidents of his long term of office, and his attitude toward the social and political questions of the time.

For some time it has been known that Sir Thomas Lipton did not consider the international yacht-races, as conducted at present, a fair test of the abilities of England and America in shipbuilding. In an article in The Cosmopolitan for October, Sir Thomas predicts that the course of the international cup race of the future will lie across the ocean. This would, of course, necessitate boats of a useful class, not mere racing-machines, and would both promote a keener rivalry between the foremost European nations and America, and at the same time encourage advances in naval architecture, and be of the greatest value to shipping. The Cosmopolitan has offered a five-thousand-dollar cup for sailing vessels under conditions which make all the competitors of the greatest use to commerce.

The September *Review of Reviews* is notable for the number and variety of topics of world-wide interest included in its survey. The Irish land bill, the British tariff debate, the Macedonian revolt, the crushing of liberty in Finland, the commercial progress of Germany, and the Panama Canal question are among the subjects of editorial ·discussion, while various other matters of current interest are illustrated in the cartoon department, and special contributed articles deal with the new Pope and the Conclave, with the renomination of President Diaz of Mexico, with the career of the late Frederick William Holls, of the Hague court, and with "The Cotton Crop of To-day." Dr. Lyman Abbott's discussion of "The Race Problem in the United States" is supplemented by an interesting exposition of "The Negro Problem in South Africa" from the pen of an English writer, Mr. Arthur Hawkes; Dean Sanders, of Yale University, outlines the programme of the new Religious Education Association, of which he is president; Mr. Clarence H. Poe describes the rural school libraries of North Carolina; and the social and religious conditions of modern London are clearly set forth in a review of Charles Booth's recently completed work. It would take more space than we have at command to enumerate the additional topics treated in the departments of "Leading Articles of the Month" and "The Periodicals Reviewed," and the magazine as a whole may be described as a veritable encyclopedia of current history.

Miscellaneous.

The Journal of the American Medical Association.

We have noticed several editorial comments on the methods of the *Journal of the American Medical Association*, and as most of these have a common object, it is perhaps timely that we should in turn pass some remark upon the motive and principle involved. We have persuaded ourselves that the purposes of the American Medical Association are first and above all to organize the medical profession in the United States, and, secondly, to create a scientific spirit to the end that each individual may profit professionally and materially by his connection. To further these objects a plan of organization has been evolved, and a *Journal* has been brought to a full growth. The questions arise, are the representatives conducting the business of the Association fulfilling their exact office in the methods employed, and is the *Journal of the A. M. A.* the official organ of the A. M. A., or is it a business enterprise, intended to amass funds which are not *necessary* to the purposes of said Association? Criticisms call attention to the fact that subscribers are solicited and advertising obtained beyond the needs of the Association and to the detriment of other journals, legitimately serving local divisions of the A. M. A., and entitled to the right to live and thrive.

These questions are serious, and they promise much of disquietude for the integrity of the Association unless they are fully and freely answered by those responsible for their existence, the managers of the *Journal of the A. M. A.* and their advisers.

The provincial or local journal is going to fulfill its object, and we do not believe that the *Journal of the A. M. A.* is going to develop into the octopus, but we believe that every journal with its following has the right to discuss the method of the administration of the American Medical Association, and if even one element of progress is influenced, that should weigh for something.

Let the Association *Journal* answer these questions:

1. What are the necessary expenses of the Association?

2. What are the necessary expenses of the *Journal?*

The symptoms of all

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are favorably influenced by the combined mild, soothing, sedative, antiseptic and astringent action of

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IN *TYPHOID FEVER*

Competent authorities agree that very LITTLE MEDICATION is required or is DESIRABLE in the treatment of this disease.

It is necessary to CONTROL the TEMPERATURE of the patient, and the best way of reducing dangerously high temperature is by repeated sponging of the body with tepid water, the use of the wet pack, or when the surroundings will permit, the employment of the full bath.

The ALIMENTARY CANAL should be kept in as nearly an aseptic condition as possible, and this may be accomplished by the JUDICIOUS administration of Zinc Sulpho Carbolate (the Merrell Company supply this remedy in the convenient form of 2, 3 and 5 grain tablets).

The GREATEST DANGER which THREATENS the patient is that of INTESTINAL PERFORATION, and the remedy which will do more toward lessening this DANGER than any other is SOLUTION BISMUTH and HYDRASTIA Merrell.

It acts as a sedative and mild astringent to the entire intestinal tract and favorably modifies the entire course of the disease.

Many years of SUCCESSFUL employment of this remedy JUSTIFIES the CONFIDENCE placed in it by the Medical Profession.

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3. What is the actual income from members of the Association?

4. What is the actual income from subscribers not members?

5. What is the actual income from advertisements in the *Journal?*

6. What disposition is made of the balance of the funds?

7. Why does the Association enter into competition with other medical journals, if it is not necessary and may do harm?—*New Orleans Medical and Surgical Journal.*

Iodipin Topically.

Dr. M. Weisz has had good results from the topical use of Iodipin. The first case was in a child four months old, who was extremely run down and whose entire body was covered with maculous syphilides; besides there was a weeping eczema (probably the result of inunction treatment) of the breast, abdomen, and thighs; also numerous cutaneous abscesses. Iodipin, 25 per cent., was ordered in 2 Gm. capsules, the contents of two of which were gently rubbed in over the body twice a day, the inunctions being followed by the application of olive oil and the infant wrapped in linen sheets. After the third inunction the eruption became paler, and the patient could take its milk again. After the tenth inunction the eczema was entirely gone. The treatment was continued until thirty applications had been made The child noticably increased in weight and strength and began to walk at eleven months. There was no vestige of syphilis.

The second case was in a man, who for years had had infiltration of the right apex of the lungs, and who developed an ascites caused by tubercular peritonitis. About 2 gals. of clear fluid were drawn off, but in two months the abdomen again filled up in spite of iodide baths and very invigorating diet, so that a second tapping had to be performed. This time about 3½ gals. of liquid were drawn off; but fluid again accumulated quickly, seriously interfering with locomotion and producing dyspnea when the patient lay down. The salt baths were now discontinued, and a small teaspoonful of iodipin 25 per cent. rubbed in daily, the operation requiring ten minutes each time. After twelve inunctions the patient felt relieved; the belly was less tense, and the collection of fluid did not seem to increase. Burning and itching of the skin setting in, the inunctions were stopped for about a fortnight, and then resumed with iodipin 10 per cent. A month later, when the patient was seen the last time, his girdle measure was 82 centimeters, while it was 138 Cm. when the treatment was commenced. In all, twelve inunctions with iodipin 25 per cent. and 30 with iodipin 10 per cent. were made. The lung infiltration remained unchanged. The general appearance was very satisfactory.

The same treatment was applied in a case of tubercular peritonitis. Aspiration was first performed, and a tight binder applied and left in place for nine days, when the iodipin applications were made. The inunctions with the 25 per cent. iodipin were not well borne, burning and itching being produced very early, so that the 10 per cent. iodipin had to be used.

In all, 200 Gm. (7 oz.) of iodipin 10 per cent. were employed in twenty-seven seances. The ascites did not return, and the patient remained well permanently. When last seen she was stout and had rosy cheeks and could scarcely be recognized by the physician.

The last case in which iodipin was used externally was a large circumscribed peritoneal exudate situated under the liver and extending into the larger pelvis. Aspiration brought away over a gallon of greenish, rather thick, clear fluid, containing some minute particles in suspension. Under the microscope these particles were found to consist of round cells, isolated giant cells and a few pus corpuscles and tubercle bacilli. During the second month after the tapping, the right side of the abdomen filled up again. Inunctions with iodipin 10 per cent. were now made daily for over two months; a fluctuating tumor was then still clearly distinguishable by palpation, but it had considerably diminished during the last two weeks in dimensions.

In all the above cases iodine action on the mucosa was not observed. In none of the patients did coryza or iodine cough supervene. The author concludes that iodipin when rubbed into the skin is very readily absorbed, and manifests its beneficial action much better than extemporaneously prepared iodine ointments; and he would recommend iodipin specially in congenital syphilis occurring in delicate children, and in chronic tuberculous peritonitis.—Klin. ther. Woch. x, No. 17.

Sanmetto in Prostatitis, Urethritis, Cystitis.

I have used Sanmetto extensively in my practice for some years, and in well chosen cases have always gotten good results. I look upon it as a most valuable remedy in prostatitis, urethritis, cystitis, and, in fact, all inflammatory conditions of the genito-urinary tract.—W. J. Chittock, M. D., Jackson, Mich.

The Battle Creek Sanitarium.

This magnificent fire-proof structure which has been in process of erection during the past year will be completed and dedicated about June 1, 1903. There will be accommodations in the main building for 350 guests, and accommodations in other buildings for 400 more patients. One hundred and seventy-five rooms have private baths. The new building is equipped with five hyraulic elevators, electric lights, a private telephone in each room, and all modern conveniences. For information concerning the facilities afforded, terms, etc., address,

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Dr. Taylor has resigned from the Staff of The State Hospital at Morganton and will in future devote his whole time to the Sanatorium.

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For further information address the Superintendent, St. Peter's Hospital.

Veronal Therapeutically.

Dr. M. Rosenfeld has employed the new hypnotic veronal in 50 cases at the psychiatric clinic of Strassburg University. The very best results were obtained in cases of simple insomnia, and where the condition was caused by repeated sad experiences and untoward sensations, nervous unrest, fear, and mild depression—cases that might be regarded essentially as hysteric or as neurasthenic. In one case of this kind, 3 Gm. (45 grn.) doses of potassium bromide, 1 Gm. (15 grn.) of trional, and large doses of chloral and warm, prolonged baths—all were of no avail in producing sleep; however, 1 Gm. of veronal in three-quarters of an hour brought on deep sleep, which lasted for ten hours, and in the afternoon the patient could sleep for a few hours—impossible previously. The next day the same dose again produced sound sleep. Later on 0.5 Gm. (7½ grn.) sufficed to produce the desired effect. Whenever the remedy was discontinued for any time, sleeplessness returned. In some cases the initial dose of 1 Gm. (15 grn.) could gradually be reduced to 0.25 Gm., these producing natural sleep.

Good results were obtained in those cases dependent upon neurasthenic, climacteric and periodic depressions. The sleep produced usually lasted up to eleven hours, particularly when doses of 1 Gm. were given.

In chronic alcoholism and delirium tremens the results were not so constant, as is usually the case with hypnotics. Sometimes as much as 1.5 Gm. (23 grn.) was required for sleep; at others two doses of 1 Gm. each had no material effect; while often after the second day 0.5 Gm. sufficed to produce sound sleep.

A patient with grave dementia paranoides, who had not obtained sufficient sleep from 1 Gm. of trional, slept well after taking 1 Gm. of veronal; the next day 0.5 Gm. produced only insufficient sleep; the following day 1.5 Gm. brought on very sound sleep; the next day 1 Gm. was insufficient, and on the following day 1.5 Gm. produced sleep lasting nine hours.

As regards by-effects, slight nausea and dizziness were observed in some neurotic women when the dose of 0.5 Gm. (7½ grn.) was exceeded. The urine is not altered any.

As for the dose, the author does not now give more than 1 Gm., although 1.5 Gm. has been given in four cases without untoward effect. Women react more energetically than men, so that 0.5 Gm. generally suffices. Though in some instances the drug was given for more than two weeks, no tolerance was noticed.

In a number of cases Dr. Rosenfeld gave veronal and trional alternately, in wafers, and found that the former in equal dose decidedly surpassed the latter in efficacy.—Ther. der Gegenw., v, No. 4.

Ichthyolidin in Gout.

Ichthyolidin is a chemical compound of ichthyol and piperazine, containing 7 per cent. of the latter base. It occurs as a blackish-brown, amorphous powder, remotely reminding one of tar, and having a bitterish, unpleasant taste. It is almost insoluble in water and the other usual solvents.

Recognizing that ichthyolidin theoretically combines in itself the double action of dissolving uric-acid deposits and checking their formation, Dr. F. Dorn tested it on a number of healthy and of sick people with a view to determining its practical value, particularly in gouty disturbances. It was found that the drug can be given to patients for a long time without provoking any disturbance or by-effect whatsoever; the investigator gave up to 5 Gm. (75 grn.) a day in these experiments. Examination of the urine showed the uric acid content to be diminished up to 50 per cent. and more of the original quantity, while the urine almost always was faintly acid and only exceptionally neutral or alkaline. This latter phenomenon is ascribed to the diminished production of uric acid within the system. Hence the remedy was tried in actual cases of gouty affections of long standing in doses of 3 to 4 Gm. (45 to 60 grn.), occasionally up to 6 Gm. (90 grn.) per day, with very favorable results on the subjective symptoms. In acute inflamed conditions a 10 to 15 per cent. ichthyol ointment was applied to the parts.

Dr. Dorn concludes that ichthyolidin induces an oxidation process in the system, which counteracts the formation of uric acid or causes a conversion of it into a less injurious nitrogenous compound; his clinical observations have proved that ichthyolidin, by virtue of its preventing uric-acid development, exerts a therapeutic influence which manifests itself distinctly in acute typical attacks of gout as well as in chronic cases of uric acid diathesis.—Therap. Monatsh., xvii, No. 6.

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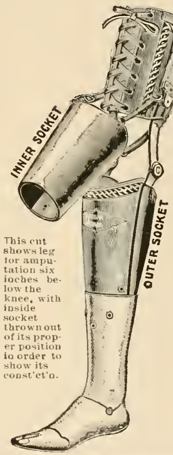

This cut shows leg for amputation six inches below the knee, with inside socket thrown out of its proper position in order to show its const'ct'n.

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Ichthargan in Gonorrhea and Vaginitis.

Dr. K. Neuwirth has used ichthargan, a chemical compound of the antiplogistic and resolvent ichthyol, with the astringent silver containing 30 per cent. of the latter metal, in the gynecological division of the St. Elizabeth Hospital at Vienna. Acute and chronic colpitis were beneficially influenced; the secretion which had been abundant previously, diminished visibly after irrigations with 1 : 1000 ichthargan solution, the original intense redness gave way to the normal color, and the patients were no longer annoyed by copious discharge and its consequent pruritus. Also in the women who came under treatment with symptoms of chronic colpitis; there was generally an improvement within a short time in the direction just described. After cleansing the vigina and freeing it of adherent secretion, which was effected by sterile tufts of cotton, the ichthargan solution was poured through a tubular speculum, and then the latter was slowly withdrawn, so that the entire mucoso was kept in contact, part after part, with the solution for one or two minutes. After removing this solution an ichthargan tampon was inserted, or an ichthargan gauze strip, followed by a tuft of cotton, either being impregnated with a mixture of ichthargan 5 Gm., distilled water 5 Gm., and glycerin 90 Gm., and retained for ten to twelve hours. The next day, or in two days, in cases already improved, the treatment was repeated. The results showed that ichthargan is a very good siccative.

In chronic inflammatory processes of the urethra, particularly in those of gonorrheal nature, a 1 : 1000 solution of ichthargan was instilled. The effect on more or less prolonged use was a very favorable one, and not inferior to that of a weak solution of silver nitrate or medium-strength solutions of protargol or largin.—Therap. Monatsh., xvii, No. 6.

A Case of Lobar Pneumonia.

Editor Merck's Archives:

Recently I had a case of lobar pneumonia in which I tried one of the newer guaiacol derivatives and with entire satisfaction. The patient was a girl of rather robust build. On physical examination I found the lower lobe of both lungs involved; temperature 105 deg. F.; respirations 50 per minute; pulse 136; cough moderate, and accompanied by a rust-colored sputum tinged with blood; delirious to an extreme degree; tongue heavily coated; appetite wanting; and the kidneys not very active. The treatment consisted of aconite tincture, 1 drop every hour until four drops were given the first day. After this I gave 5 grn doses of thiocol (guaiacol-sulphonate of potassium) every four hours, and 5 drops of tincture of nux vomica every four hours, in the intervals between the thiocol doses. On the second day the temperature was 104 deg. F. The aconite was given the same way as on the preceding day. On the third day the temperature was 104 deg. F., and the remaining symptoms the same as before except that the patient was not so delirious and the pulse was better. On the fourth day the aconite and other medication continued as before, the temperature and other symptoms being about the same as on the day before. On the fifth day the temperature was normal; pulse 88; dyspnea all gone. The treatment was continued for a week longer, when the patient was discharged entirely well.—Dr. A. T. Stewart, Pilcher, Ohio.

Iodipin in Infantile Emphysema and Asthma.

Dr. M. Peano reports the following case: In an otherwise healthy child 4½ years of age, there developed two years before regular attacks of cough and dyspnea that deprived him nights of sleep and steadily increased in frequency and intensity. Prolonged treatment with all conceivable sedatives had been resultless. At the polyclinic the case was diagnosed as subacute pulmonary emphysema, reflex asthma, and adenoid vegetations of the nasopharynx. Several injections of 10 per cent. iodipin were given, but after that this drug was given internally, 2 teaspoonsful daily. The patient was carefully examined every two weeks. Progressive improvement set in. After three months the child could breathe better and had a good appetite, and was regarded by the parents as cured. Subsequent examination of the nasopharynx showed that the adenoids were almost entirely gone. The asthmatic paroxysms ceased, and the emphysema disappeared; the patient could actually be considered as completely cured. — Aerztl. Rundschau, 1903, No. 28.

Thiocol in Tuberculosis.

Dr. L. Friedmann considers thiocol preferable to all creosote and guaiacol preparations. It is odorless and easily soluble in water. Clinical observation and experimentation upon the lower animals proved thiocol to have a specific influence upon tuberculosis. All the author's cases treated with this preparation showed amelioration of symptoms. Friedmann also used thiocol in tuberculous affections of the pleura, the trachea, etc. Because of its antiseptic action thiocol may also be used in other bacterial diseases of the air passages.—Amer. Medicine, v, No. 21.

UNIVESITY OF LOUISVILLE

Medical Department.

SESSION OF 1903-'04.

The Session of 1903-'04 Comprizes Two Terms.—The first term will begin September 21, 1903, and end April 1, 1904, a period of six months; the second term will begin January 1, 1904. and end July 1, 1904. a period of six months. Attendance on either term will entitle the student to a credit of one year on the four years' course required for graduation. A complete course of instruction in all departments of medicine will be given during each term. Twelve months must intervene between matriculation for one term and matricution for another.

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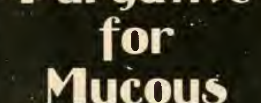
SAMPLES AND LITERATURE ON APPLICATION



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In his recent book on the "Mineral Waters of the United States," Dr. James K. Crook writes of Allouez Water as follows:

"There is a fortunate combination of mineral ingredients in this water. The principal constituent, the bi-carbonate of magnesia gives it valuable antacid and laxative effect. The latter action is aided somewhat by the sulphate of sodium. Authorities are agreed that the carbonate of magnesia is an excellent antilithic in those cases in which the acids are too abundant. In diseased states the best effects of the water have been observed in diabetes, Bright's disease, disorders of the stomach and liver, and in gout and rheumatism."—*American Mineral Water News*, New York.

Chronic Bronchitis Treated with Ichthyol

Dr. De Brun, of Beirut, recommends ichthyol internally in the treatment of chronic bronchitis. He prescribes as much as 15 grn. each day, made into ten pills with some inert powder; and he asserts that the results are marvelous—cough diminishing, and the patient passing a good night undisturbed by the coughing and expectoration; the rales becoming less in number; there is a distinct improvement in the vesicular sounds; and the dyspnea also disappears. Another method of employing this drug consists in its use in the following formula:

Ichthyol	30	grn.
Glycerin	4	dr.
Syr Orange	4	dr.
Water	3	oz.

A half to one teaspoonful of this mixture is given several times a day.—Ther. Gazette, xxvii, No. 6.

Sanmetto in Urinary Irritability in the Aged of both Sexes, in Enurisis in Children, and in Sexual Atony, Especially the Sexual Aversion among Women with Mammary Non-Development.

I have used Sanmetto extensively in my practice, and am now prescribing it two or three times daily, and have to meet with the first disappointment in well chosen cases. I use it with feelings of assurance in urinary irritability in the aged of both sexes; in enurisis in children; and in sexual atony, especially the sexual aversion among women with mammary non-development or mammary atrophy, because of nursing. Its action seems to be very remarkable upon the glands of the genito-urinary tract. Many cases of immature organs rapidly develop under its use, and the atonic condition of abused organs relieved. I like Sanmetto and shall continue its use where indicated.—John D. North, M. D., Jackson, Mich.

Aletris Cordial Rio is an emmenagogue, not abortifacient. It cures congestion of the uterus and ovaries, and favors the occurrence of the menstrual discharge. It is also especially appropriate when the amenorrhea depends upon anæmia. It regulates menstruation, and is useful in all the derangements of menstruation, namely, amenorrhea, dysmenorhea, and metrorrhagia, provided these disturbances be idiopathic. By curing menstrual disease, a common cause of sterility, it will also cure the sterility. It is also recommended in erosions of the cervix, and vulvar eczema.

We call attention of our readers to the advertisement of the Robinson-Pettet Co., Louisville, Ky., which will be found on another page of this issue. This house was established fifty years ago, and enjoys a widespread reputation as manufacturers of high character. We do not hesitate to endorse their preparations as being all they claim for them.

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Dr. Carl L. Schilling, San Francisco, Cal., writes: "I have been using Euquinine for over two years, and cannot say too much of it. I prescribe it wherever a general tonic is indicated and with very good results."

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Scientific vs. Commercial Medical Journalism.

"The writer is tempted to make mention of an incident, perhaps excusable and perhaps not. The incident thought of was the absence of the editor of the *Association Journal* or of a representative. A self-assumed representative, in response to a toast, took occasion, foreign to his subject, to thank the independent medical journalists for the aid and assistance rendered from time to time by them to the *Association Journal*, and asked for a continuance of good will and fraternal fellowship. This expression was received with solemn silence, and why should it not be so? There was certainly no concert of action on the part of the independent journalists on the matter, but there was evidently a common feeling of dissatisfaction with the course of that publication. Evidently, a line has been drawn and the foundations of a wall erected which has for its intent and purpose a future antagonism of the *Association Journal*. There was not much outspoken feeling expressed, but mutterings and murmurings of discontent passed around from one to another."

* * * * "Criticism was freely expressed in regard to the reorganization methods put in use by the chief re-organizer, who receives a salary of five thousand dollars a year for his services, which are mainly, at least largely, that of a solicitor for the *Association Journal*. In that way he is supposed to earn his salary. The *Association Journal* also sends out from seven to ten or twelve drummers for the *Journal*, who are authorized by the managers of the Association to offer such terms—cut rates—for new subscribers as to embarrass many other publications."

It has been and shall continue to be the policy of the *Index-Lancet* to refrain from the discussion of things personal in its editorial columns, since we believe this space should be given over to scientific subjects. The tenor of the above quotation from the *Lancet-Critic*, as well as the opinion expressed, are both of vital importance in the matter of independent medical thought in the United States, and we therefore think it excusable in stepping aside from the custom and saying a word in condemnation of a monopoly even in medical journalism.

Dr. J. C. Culbertson, editor and publisher of the *Cincinnati Lancet-Clinic*, has written well, and his vast experience and ability to observe gives his opinion weight. There is no doubt but that the official organ of a scientific body that acknowledges no superior in the world should confine its efforts to matters purely scientific, leaving the advertising to independent journals, because it is a well-known fact that the local journals more completely cover the territory in which they circulate than it would be possible for a journal of such general circulation as the *Journal of the American Medical Association* to do. As stated by Dr. Culbertson, the murmurs have been heard for some time and are getting more numerous and louder, which is proper. Combinations along some lines may be all very well, but to curtail the privilege to disseminate literature is against public policy. Again, it seems hardly possible that a highly scientific medical journal would find it necessary to send out emissaries to solicit subscribers, giving greatly reduced rates as an inducement to subscribe. Yet this is being done annually, much to the detriment of the independent journals that do not have a national medical association back of them. A medical journal, like a newspaper, generally reflects the educational characteristics of its subscribers. If its subscribers ask for a scientific journal, it will necessarily have to be forthcoming. This is of course taking for granted that there is no opposing force dominating the tenor of the journal. We have a precedent thoroughly demonstrating this fact, as instanced in the *California State Medical Journal*. When the profession of that State recently demanded that the editorial columns of the *State Journal* be confined to subjects strictly scientific, the change was at once made and there is no reason to doubt but that the same changes could be made in the Journal, only on a larger scale. On the whole, we think it eminently fitting that this subject should be freely discussed, not merely because the present methods of the Journal of the American Medical Association are throttling the independent journals, but to save the Association from descending to a commercial basis, to the neglect of scientific medicine.—Kansas City Medical Index-Lancet.

Cacodylate of Soda.--Its Chemistry, Physiologic Action and Therapeutics.

By William Jewell, B. Sc., M. D.

Arsenic as one of the old and well-tried remedies has long held its place at the head of the so-called alteratives, a class of drugs that have been so named before their physiologic action was well understood from their therapeutic effects which are among the most assured of clinical facts.

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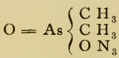
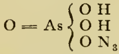
senic which when taken internally do not produce gastritis, dyspepsia or garlic-like eructations and fetid breath, and still is a powerful remedial agent, is cacodylate of soda.

Chemically this organic compound of arsenic is a mono-sodic methylarsinate having the formula



$$O = As \left\{ \begin{array}{l} C\,H_3 \\ C\,H_3 \\ O\,N_3 \end{array} \right.$$

and corresponds close to a mono-sodic arsenate in which case two methyl radicals $(-CH_3)$ are replaced by two of hydroxyl $(-O\,H)$ with a formula



$$O = As \left\{ \begin{array}{l} O\,H \\ O\,H \\ O\,N_3 \end{array} \right.$$

however, these two compounds so near alike in composition and physical properties differ in physiologic action. Cacodylate of soda is very rich in arsenic, containing 46.87 per cent. by weight.

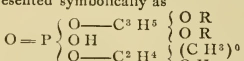
It is a white crystalline salt, tasteless, and odorless when pure, freely soluble in water, the arsenic being held dormant in this form, and is only liberated to chemical activity on the destruction of the molecule.

This is the reason why it is so innocuous, and it can be given in large and repeated doses without fear of obtaining any of the disagreeable and toxic results that would follow such an administration of pure arsenic.

Physiologic Action.—It has long ago been established by erudite observers, such as Prof. Gautier and Drs. Selmi and Scolosuloff, that the physiologic action of mineral arsenic is primarily upon the blood, and that it really substitutes the phosphorus in lecithin and nucleins, which are the great primal protoplasmic factors in tissue nutrition and formation, and in this way reaches the nervous centers.

Cacodylate of soda, on account of its organic form, has greater activity than arsenic pure and simple, and readily attacks lecithin and nucleinic acid wherever it comes in contact with it.

Lecithin, so-called from a Greek word (———), meaning the yolk of an egg, because one of its chief sources of existence is in the yolk of eggs, but is also found in semen, brain matter, nerve tissue, and the leucocytes of the blood, is a di-stero-phosphoglyceride of cholin with a chemical formula of $C_{49}\ H_{99}\ NPO_2$ that may be represented symbolically as



$$O = P \left\{ \begin{array}{l} O\text{——}C^3\,H^5 \left\{ \begin{array}{l} O\,R \\ O\,R \end{array} \right. \\ O\,H \\ O\text{——}C^2\,H^4 \left\{ \begin{array}{l} (C\,H^3)^0 \\ O\,H \end{array} \right. \end{array} \right.$$

R = a fatty acid radical.

Numerous authorities who have studied the physilogic role played by lecithin in the human economy agree that it assists nutrition, and favors the assimilation of nitrogen and phosphorus compounds, its action being chiefly through the medium of the red blood corpuscles.

The arsenic in cacodylate of soda also stimulates the white blood corpuscles (leucocytes) to greater activity and thus helps to clear the tissues of effete products and toxines.

This increase in the activity of lymphoid globules (chiefly the polynuclear ones) increases the defensive power of the organism against disease.

Microscopical examination of the blood after the exhibition of cacodylate of soda shows an increase in the number of red cells, so it is at once patent that this drug has a two-fold action on the blood, both strengthening the individual constituents and thus increasing their activity, and also augmenting their numbers and thus multiplying their total power.

Therapeutics.—In the majority of exhausting diseases, such as tuberculosis, typhoid, malaria, leukæmia, pernicious anæmia, cancer, diabetes, etc., and in some nervous affections like neurasthenia and chorea, a symptom that is invariably present is anæmia.

Anæmia is a general term for a pathologic condition of the blood in which there is a diminution in the number of red cells and a reduction of the percentage of hemoglobin accompanied with changes in the shape and size of these cells and a loss in the amount of the albuminous and other constituents of the blood plasma.

When it is of moderate severity it is termed simple anæmia; when of a graver form tending to a fatal issue it is called pernicious anæmia. If these abnormalities arise from perverted function of the blood-producing organs, they are called primary, while on the other hand, if they result from the actual loss of blood by hemorrhage or from some general infectious disease or chronic toxæmia, they are properly known as secondary.

The pathologic changes that take place in the blood in the different anæmias vary only as to severity and extent of invasion which are in accordance to the different diseases that they follow as a secondary effect to a primal cause, and although the pathologic lesion may differ somewhat in the different varieties, we are forced to recognize that the primitive physiologic cause is due to a lack of nutrition and consequent sluggish action of the individual weakened cells, consequently, the most rational treatment of anæmia resulting from any of the

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above enumerated diseases is to administer such a remedy as augments nutrition and stimulates activity in the hematogenic system.

Such a remedy we have in cacodylate of soda, and the clinical proof, which is always better than any theory, and the practical demonstration that has been given of the efficacy of this drug in the hands of many practitioners, both in private practice and in hospitals, far exceeds the expectations of the most exacting.

In paludal fevers, especially in the Orient, where large doses of quinine did not suffice to relieve the patient, cacodylate of soda has been used with great success.

In all these cases of intermittent fever, which were of quotidian and pernicious type, the bacteriological examination of the blood showed a complete cure forty-eight hours after the first injection of the drug.

This new remedy rapidly stimulates the strength of the patient and increases the appetite, which in itself is an indication of more complete assimilation and renewal of tissue.

In anæmic, weakly, chloratic, nervous and fever patients, as well as in those suffering from cachexia, diabetes, etc., the respiratory exchanges become normal and more active.

All these considerations, joined to the non-toxic property of this arsenical salt, tend to prove that it is the proper remedy in this class of diseases.

The indications, then, in which cacodylate of soda may be given with advantage are: Paludal fever, skin diseases, chorea, the vomiting of pregnancy, adenopathy, anæmia, lukaemia, asthma, grippe, bronchitis, emphysema, tuberculosis, etc.

Administration.—Large doses of cacodylate of soda have been given by the mouth for weeks without any untoward effects, in one case 80 centigrams which represent 50 centigrams of arsenious acid were administered without any accident, thus proving that the toxicity of this compound is almost nil.

The average dose is 5 centigrams a day, but this may be gradually increased to 10 centigrams, which suffices to completely saturate the system and determine an excess of arsenic in the blood.

The doses of some arsenical preparations would be piosonous if taken habitually; these doses containing each one a quantity of arsenic equivalent to 10 centigrams of cacodylate of soda are given in the following table which thus shows the innocuousness of cacodylic medication:

Preparations.	Doses containing a quantity of Arsenic equivalent to 10 centigrams of Cacodylate of Soda.	Maxima doses per day.
Arsenious Acid......	0 gram. 06	0 gram. 01
Fowler's Solution....	6 " 15	1 " 00
Arseniate of Soda...	0 " 19	0 " 02

Cacodylate of soda is put up in a solution so that five drops represent one centigram of the cocodylate, and in capsules each capsule representing exactly one centigram of cacodylate of soda, also there is a sterilized preparation for hypodermic use, one cubic centimetre of which contains precisely five centigrams of cacodylate of soda.

The best preparations of this drug are compounded by Clin & Company, of Paris, and can be obtained through Fougera & Co., their agents for America. Their special preparations with dose and mode of administration is as follows:

Gouttes (Drops) Clin or Cacodylate of Soda, Chemically Pure.—Five drops contain exactly one centigram of Cacodylate of Soda. They should be taken at meals' time in a little water. In certain cases it may be advisable to administer Cacodylate of Soda by the rectum. It is then sufficient to mix 5 Gouttes (Drops) Clin in a tablespoonful of lukewarm water, and inject in the rectum with a small syringe. This enema (injection) should be retained.

Globules Clin of Cacodylate of Soda, Chemically Pure.—This special form of medication consists of small gluten coated globules which are easily taken. These globules pass through the stomach unaffected, and are dissolved in the intestines only. The Cacodylate of Soda is thus absorbed directly without troubling the stomach. Each Globule Clin contains exactly one centigram of pure Cacodylate of Soda.

Tubes (Sterilized) Clin for Hypodermic Injections of Cacodylate of Soda, Chemically Pure.—Hypodermic injections are frequently used for administering Cacodylate of Soda. The Solution Clin comes in small tubes, is absolutely pure and perfectly asceptic. Each tube contains one cubic centimeter of the solution representing 5 centigrams of Cacodylate of Soda. This constitutes the average dose to be injected at one time in twenty-four hours for an adult. This dose may, however, be doubled according to cases.—Reprinted from the June, 1903, issue Medical Examiner and Practitioner, New York.

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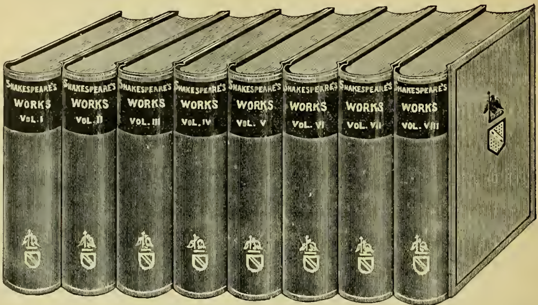
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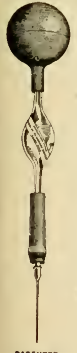

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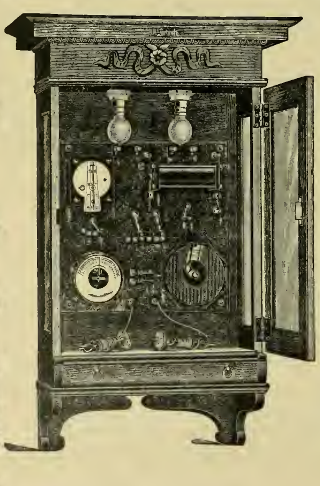

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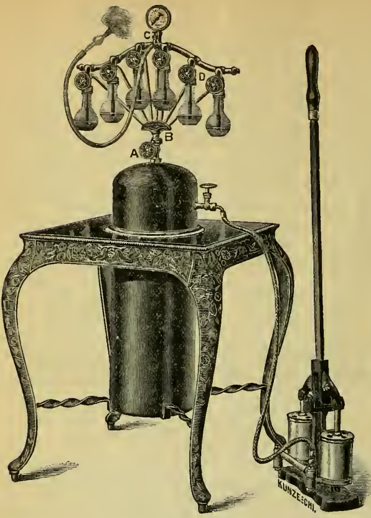

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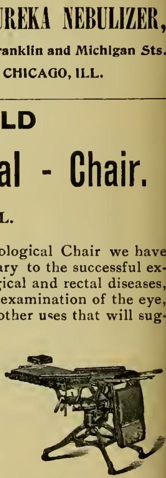

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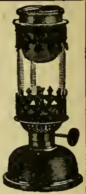

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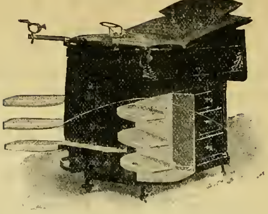

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Fig. 2. Urine clear and sweet, amber colored, acid reaction.☜

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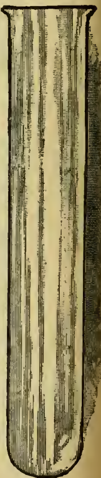

Fig. 2.

The Charlotte Medical Journal.

VOL. XXIII. CHARLOTTE, N. C., NOVEMBER, 1903. No. 5

Tuberculosis of the Urinary System in Women. Report of Thirty-Five Cases.*

By Guy L. Hunner, M. D., Associate in Gynecology, Johns Hopkins University, Baltimore.

This paper will deal chiefly with diagnosis. I shall speak briefly of the treatment and the final results, time forbidding a technical review of the operations. There will be no attempt to present a systematic and comprehensive treatise on the subject of tuberculosis of the urinary system—this you can find in the text-books and special monographs. I hope to present a few practical and helpful facts and conclusions that may be drawn from a study of thirty-five cases which have occurred in the service of Dr. Howard A. Kelley and his associates.

Excluding those cases which are only a portion of a general miliary tuberculosis and those cases arising as a primary genital tuberculosis in the male, tuberculosis of the urinary system seems to be more common in women than in men, the ratio in the reported operation cases being as 6 is to 4. Our cases were all in the female. The right kidney was operated on in 17 and the left in 18 instances. Both kidneys were probably tuberculous at the time of operation in 5 cases.

Age. By reference to the histories it will be seen that the disease is one of young adults, 20 out of the 35 cases being thirty years old or younger. The average age at the time of treatment was thirty-two and one-half years.

Family History. The family history is recorded for 28 of these patients. In 13 cases there was obtained a family history of tuberculosis; in one of these, however, the disease was not reported in the immediate family. To illustrate how inaccurate a history may be on this point, I have only to cite Case 31, whose original history taken by a careful ward interne reported the family history negative for tuberculosis. When her sister, Case 33, came to me with tuberculosis of the urinary system I inquired more closely into the family history and found that the father had had a chronic cough with expectoration for years, and that a brother had recently died from an unknown cause after having had attacks of pleurisy. This sister has signs of tuberculosis of the lungs.

Past History. The patient's past history interests us from several view points. First, as showing a possible manifestation of tuberculosis in other organs. Case 1 had a swollen left knee four years before admission and was still suffering from weakness in this joint. Case 2 had an "obscure abdominal inflammation" ten years before her kidney symptoms began. Case 8 had undergone an operation for tuberculous submaxillary glands about two years before her bladder symptoms appeared. Case 11 had "malaria" as a child, pneumonia at twenty-five, and when forty years of age she spent two years at Asheville, N. C., recovering from cough and hemoptysis. Her kidney trouble began at forty-five. I will refer you to the histories for further facts of interest in this connection.

Second, the past history is interesting as showing diseases which may have left kidney lesions as a "locus minoris resistentiæ" for a later attack by the tubercle bacillus. Scarlet fever is recorded in 5 cases and in 2 cases may have been definitely associated with the tuberculous trouble. Case 1 had suffered with pain and weakness in the back and incontinence since childhood, and at nine years of age was in bed six weeks. At sixteen she had scarlet fever, after which all her symptoms were increased. This appears to be an aggravation of tuberculous trouble due to scarlet fever, whereas in Case 27 there may have been a casual relation. The patient had scarlet fever at seven and was dropsical for some time afterward. Sixteen years later the kidney symptoms began. In Case 11 the resistance of the kidney may have been lowered by a congenital cystic condition. This, of course, was suggested by the pathologic examination of the kidney rather than from the history. The past history may be interesting and instructive because of the possible errors in diagnosis. This portion of the history merges with the history of the present illness. The first patient I operated on, Case 31, had been treated at intervals during nine years of supposed malaria. She lived in Baltimore, and chills and fever were her most pronounced symptoms. Case 31 was suffering from tuberculosis of both kidneys, and six months prior to my removal of an immense pus kidney from the left side the right kidney had been suspended for supposed Dietl's crises.

To show that carelessness may determine our failure to make a diagnosis in this most important disease, I will cite the last case in my series. I first saw the patient two years ago. She had discovered a movable tumor in the right abdomen and a neighbor told her she had a floating kidney and should have it operated upon. On examination she had very little tenderness and no symptoms whatever. I made a diagnosis of movable kidney and advised that it would not be wise to interfere unless her kidney gave her definite trouble. Soon after this she noticed soreness in the right side and inability to wear a corset or tight band. Eight months ago bladder symptoms began, together with pain in the right back and groin. On seeing her for the second time, about one month ago, I made a probable diagnosis of renal tuberculosis from her history alone, and on palpation and cystoscopic examination confirmed the diagnosis. Had I been more alert and made a careful microscopic examination of the urine two years ago I doubt not that I would have found evidence of beginning inflammation.

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*Read before the North Carolina Medical Society at Hot Springs, N. C., June, 1903.

Clinical History. Points of great interest in the history of the present illness are the duration of the disease and the probable seat of origin in the urinary system. A reference to the histories shows the extremes of existence of the symptoms to be two months and seventeen years, with an average of four and one-half years. Case 1 illustrates the difficulty of determining the date of origin of the disease as well as its primary location in the urinary system. Since early childhood the patient had suffered with pain and weakness in the back and some incontinence. The incontinence was worse after an attack of scarlet fever at sixteen. She had been treated for bladder trouble at ten and had suffered difinite persistent bladder symptoms for six years. For only one year she had suffered with definite kidney symptoms. One would expect after six years of bladder symptoms to find a badly diseased bladder, but in this case cystoscopic examination showed simply a few granulations around the left ureteral orifice, and since the removal of the left kidney and ureter there have been no bladder symptoms. The pathologist's report says there was no tuberculosis of the ureter. Must we not say then that this disease in this case was primarily and throughout a kidney affection dating since early childhood but with the first definite symptoms located in the bladder?

Again, Case 6 had noticed thick ropy urine for several years, but her first symptoms, pain on vomiting, began but eighteen months before her admission to the hospital. The bladder irritation was such that on her admission she was vomiting from twenty to forty times in the twenty-four hours. There had been no symptoms referred to the kidney region, but on cystoscopic examination the bladder disease was found confined to the region of the left ureteral orifice, and the kidney at operation was found in an advanced state of necrosis. Case 29 was suffering with most intense bladder symptoms and did not complain of backache, but on examination the left kidney was found to harbor a tuberculous pyonephrosis, while the right was the seat of a colon bacillus pyelitis. While the symptoms first noted were in the bladder in eighteen out of thirty-four of the cases, a close scrutiny of the histories and comparison with the clinic and pathologic findings convince me that in by far the great majority of cases, urinary tuberculosis in women originates in the kidney. With the widest margin in favor of primary bladder infection I have classed but five of the thirty-five cases under this heading.

In the past six years of hospital practice I have seen but two cases of undoubted tuberculosis of the bladder in which other portions of the urinary system were intact. One of these I think was a case of primary bladder tuberculosis and was reported by Dr. Kelly in the Johns Hopkins Hospital Bulletin, 1903, XIV, p. 96. The other was a case of tuberculosis primary in the genital system and extending through the bladder wall from without.

The Physical Condition of the patient interests us from three points of view. First, the general condition. This varied in the greatest extreme. Some of the patients presented a picture of health, with a high percentage of hemoglobin, mucous membranes of rosey red, and general nourishment of most excellent degree. Others, on the other hand, were brought in on stretchers looking as though their chances for leaving the hospital alive were of the lowest grade. The factors contributing toward these varied states of health form an interesting study. Some of the patients came from poor homes characterized by bad hygienic conditions, and had been subject to hard work up to the date of going to bed. Others who came to us in equally bad condition had had all the advantages of medical science, climatic changes, and good nursing that money could command. I believe the two chief factors contributing to a desperate condition of these patients to be, first, a diseased kidney which is not draining freely, and second, irritation of the bladder disturbing the patient's rest at night. One may find a tremendous pus kidney in an apparently healthy patient providing the drainage is uninterrupted; whereas, those patients suffering from repeated blocking of the ureter with attendant attacks of pain, chills and fever, almost invariably show a marked grade of cachexia.

Second, the physical examination is interesting as relating to the question of tuberculosis elsewhere. A reference to the histories shows that Case 1 was probably afflicted with tuberculosis of the left knee, while Cases 5 and 8 had glandular tuberculosis. Five cases, numbers 11, 13, 20, 28 and 38 had evidence of lung involvement. Case 22 had been operated upon in Jena for double salpingitis, probably of tuberculous origin. Case 7 has been operated upon since her kidney operation for tuberculosis of the pelvic organs.

Third, the local condition in most of these patients received the most careful study, including cystoscopic examinations and the separation and examination of the urine from either kidney.

Diagnosis. While the ability to do cystoscopic work is of the greatest help in the diagnosis and treatment of this disease, inability to use the systoscope does not excuse the physician from making the diagnosis. A careful history alone generally points strongly to the true condition. Pain in the back, side, or inguinal region, together with a disturbance of the bladder function, leads one to suspect some kidney disease. With a careful history one combines a physical examination. The kidney is usually palpable and tender. Palpation over the course of the ureter as it crosses the brim of the pelvis elicits tenderness and a desire to void urine, and the thickened ureter is often felt in this region. Through the vagina the thickened bladder, or the tender ureterovesical region is palpated, and the thickened ureter can nearly always be felt beginning at its vesical junction just anterior to the cervix and coursing outward and backward to disappear beneath the uterine vessels. By the rectal route it can be followed well out to the lateral pelvic wall.

These local changes are found in other forms of inflammation, but tuberculosis being by far the most frequent cause of inflammation of the entire urinary tract, you are now justified in warning your patient against possible contamination of her surroundings by distribution of the urinary excretions. The finding of signs of tuberculosis in other organs makes your diagnosis more certain. You may now place your patient in bed and after charting the temperature for a week, if there be no great disturbance of the temperature, a tuberculin test may be made. You have done all this without the use of the cystoscope and still have left the only means by which any one, with or without the cystoscope, can make a positive diagnosis, viz: the examination of the urine. I hold that tubercle bacilli should be found in practically every case of kidney tuberculosis. Do not, as some have recommended, stain and examine twenty or thirty slides in one day. Examine one or two slides each day, and in the course of a week there is likely to be a shower of bacilli from some freshly broken-down focus of disease in the kidney. If tubercle bacilli are not found on the stained slide, the fresh urine may be centrifugalized and a small quantity injected into a guinea-pig's peritoneal cavity. If but one supply of the suspected urine is available it is well to inject several guinea-pigs, some abdominally and some subcutaneously, because the guinea-pig is liable to succumb to the colon bacillus so often present in tuberculous urine. If you have facilities for making a culture from the bladder a sterile plate from a case with pyuria is very suggestive of tuberculous infection. From the histories you will see that tubercle bacilli were found in 15 out of 22 cases in which a note is made as to the search, and in case 13, where they were not found microscopically in the urine, the guinea-pig inoculated with urine catheterized from the left side developed a miliary tuberculosis.

I maintain that you should be able to make a diagnosis without the use of the cystoscope. But it is only those of you who use this instrument who can appreciate its value in accurately determining the condition of the kidneys, ureters and bladder, and in deciding what should be done and in what order.

Cystoscopy—Its Abuses. Instead of specifying in this paper the many uses we make of the cystoscope, I wish to warn you against what I consider its abuses.

In the cystoscopic literature of the day we see that men all over the world are repeatedly catheterizing supposedly healthy kidneys through bladders known to be infected. You will see by reference to the histories that this was done in a number of our cases. I have seen no immediate ill results from this practice, but a reference to Case 2 will show that she was catheterized on both sides eight years ago. At that time she had no evidence of bladder tuberculosis, and the ureter, thoroughly removed from the affected right side, was not tuberculous. The urine gathered from the left side was normal. She now has symptoms strongly pointing to involvement of her only kidney, and if this be diseased I think it fair to question whether the infection was not carried up by the catheter.

I hope to see the practice given up in our clinics. We know that bacilli must be carried into the ureter and kidney, and we know that the passage of a catheter frequently causes enough trauma to elicit blood. Given a traumatic injury and the presence of bacteria and I am sure it is a combination that none of us would unnecessarily risk in the only healthy kidney we might possess. I am aware of the fact that a bacteriuria usually passes off without treatment and leaves no ill effect, but until we more thoroughly understand the relations governing infections and inflammations of the urinary tract, I think we should be careful not to cross the portal from an infected bladder to a noninfected ureter and kidney. Indeed, I am beginning to question the advisability of examining a cachectic tuberculous patient in the knee chest posture, for in the weak individual, and likewise in almost any patient under deep anesthesia, the ureterovesical orifice is liable to gape wide open on the sound side when the patient is placed in the knee chest posture. While I have not tested the point in many cases, I have not seen this occur in treating patients in the dorsal elevated pelvic position. Because the same danger of overcoming the ureterovesical protection, I would condemn general curettage of an ulcerated bladder. A recent case at the Johns Hopkins Hospital had an acute colon bacillus nephritis after curettage of the infected bladder.

Catheterization of the supposedly healthy side is not necessary. Enough urine for a microscopic and chemic test can be gathered from the healthy side by simply holding the speculum under the ureteral orifice for a few minutes. Or the diseased side may be catheterized, the bladder thoroughly washed out, and what is collected in the bladder while the diseased side drains through the catheter, will represent the better side. One becomes accustomed to making due allowance for the few pus and epithelial cells that may have been left in the bladder after the washing, or that may come from the bladder ulcers during manipulation.

Treatment and Results. In all of these cases the treatment was surgical. In Cases 7 and 8 the disease had been recognized by eminent medical experts, who advised the methods of treatment usually employed for tuberculosis of the lungs, but in each case the patient returned for operation in much worse condition than when first seen. Case 23 had been considered by medical and surgical men of high standing to be a case of tuberculosis of both kidneys, and was sent to her home in Vermont to die as comfortably as possible. After a careful examination Dr. Kelly concluded that her trouble was confined to the left side, and hers is a typical example of the treatment in an extreme case. Patience on the part of the physician and the patient is a cardinal requisite in many of these cases. The general health must be medically and hygienically supported and encouraged alternately with the necessary bold strokes of the knife. Case 23 entered the hospital in May, 1901. She came on a stretcher and was a most hopeless looking patient. She left the hospital yesterday, June 2, 1903, a picture of health, and a triumph of the surgical art and her personal fortitude. On May 3rd, 1901, the day following her admission, a vesicovaginal fistula was made under nitrous oxide gas anesthesia. On May 18, under the same anesthetic, a left nephrotomy was done, about 500 ccm. of pus being evacuated. One month later a left nephrectomy with partial ureterectomy was performed. She was then sent to her home under the care of a special nurse and in three months gained in weight from 95 to 135 pounds. On October 9, 1901, her vesicovaginal fistula was closed, and after going home she added 17 more pounds in weight in two months. Her bladder symptoms becoming severe, she returned in January, 1902, for local treatment. After spending the summer at home she returned in October, 1902, when a portion of the pelvic ureter was removed through the vagina. But this did not help the painful bladder symptoms, and on April 1, 1903, Dr. Kelley excised the left half of the bladder. The bladder now holds four ounces without discomfort, and her only symptoms are occasional neuralgic pains in the left crural nerves and neuralgic attacks about the face. I examined her bladder five days ago and except for redness about the site of operation it was normal. If any of the tuberculous disease was left she will in all probability have to return for its removal after the bladder has been further dilated by forced retention of urine which she is now practicing.

I am very skeptical about the topical treatment of bladder tuberculosis. I have yet to see a case recover without the use of the knife. Caspar (Monatschrift fur Urologie, 1900, Vol. V., p. 499) reports the cure of two cases and improvement of fourteen out of twenty cases treated by the use of small biweekly instillations of mercuric bichlorid in strength of 1 : 10000 to 1 : 1000, and he states that this is the only medicinal treatment he has found at all useful. Since reading his paper six months ago I have had enough experience with this method to encourage the belief that it may be helpful in some of these cases.

Case 1 of my series is the first on record of a complete nephroureterectomy. This, as all of the early cases, was done through what one patient in her letter describes as "an 18 inch incision," that is, the incision was carried from the 12th rib behind to the symphysis in front, almost quartering the patient.

In case 10 Dr. Kelly first did a nephorureterectomy through the two short incisions which we use at present, one in the lumbar and one in the inguinal region.

Dr. Cullen, following the suggestion of one of the German writers, first resected the 12th rib on Case 26 (Johns Hopkins Hospital Bulletin, XIII, p. 149. Exhibition of Cases). I have followed this method in each of my five cases and have found it greatly simplifies the exposure and control of the vessels.

So far as I know I am the only operator who has removed the ureter and a section of the bladder wall through the extraperitoneal inguinal incision by simply displacing the uterine vessels forward. This was done in Cases 31 and 32. Dr. Kelly had removed a section of the bladder with the ureter in Case 16, but to do this had tied and cut the uterine vessels of the corresponding side. On case 22 I had removed by vaginal incision a portion of the bladder with the lower end of the ureter after Dr. Kelly had removed the kidney and the upper end of the ureter through the usual lumbar and inguinal incisions. The uterine vessels were not interfered with in this case.

Simple nephrotomy was done on 3 patients. Case 4 died within eleven weeks, and Case 5 died within two years. Both patients had evident involvement of the opposite kidney. Case 14, upon whom Dr. Stokes did nephrotomy, improved rapidly while in the hospital six weeks and then insisted on returning home. This is the only patient in the series we have utterly lost sight of.

Nephrectomy was done on 9 patients (6, 13, 15, 17, 18, 20, 21, 28, 33). Case 21 died six weeks after operation with evident involvement of the opposite kidney. The remaining eight patients are living and the wounds have healed in all but three, Cases 17, 28 and 33. Each of these patients has tuberculosis elsewhere in the system, and it is probable that their ureters were tuberculous.

Nephrectomy and partial ureterectomy was done in 7 cases (7, 8, 9, 11, 19, 23, 24). They are all living and the wounds are all closed, except in Case 24, whose wound is still granulating after sixteen months. Five of these ureters were examined microscopically, four of them showing tuberculosis and one chronic ureteritis.

Nephroureterectomy was done on 13 cases (1, 2, 3, 10, 12, 21, 25, 27, 29, 30, 34, 35). These patients are all living, and their wounds healed promptly except in case 25, whose wound is still slightly granulating after eight months. Microscopic examination showed nine of these ureters to be tuberculous and four to have chronic inflammation.

Nephroureterocystectomy was done in 4 cases (16, 22, 31, 32). Case 16 died on the fifteenth day, evidently from a peritonitis due to rupture of the bladder on the previous day. Case 32 died on the sixth day, having been in an apparent uremic stupor since the operation. Her death was probably hastened by leakage and peritonitis, for the inguinal drainage was started on the fourth day and the quantity of urine collected through the retention catheter became markedly less immediately after the withdrawal of the drain. In Case 16 the ureter and section of bladder were removed through a median suprapubic transperitoneal incision. In Case 32 the usual inguinal incision was used, but the ureter was so inherent to the peritoneum that this structure was opened during the operation throughout its pelvic portion.

From the good results I have seen after nephroureterectomy I do think that removal of a portion of the bladder is often indicated at the primary operation. If the bladder ulceration is extreme the operation is prolonged, and if the peritoneal cavity is opened the post-operative danger is greatly heightened. In many cases the bladder inflammation is not specific and clears up after removal of the source of purulent urine. If the bladder ulceration be tuberculous it may be removed later through an extraperitoneal or peritoneal incision in either the suprapubic or inguinal region, or by vaginal incision.

The question of leaving the ureter is important from the standpoint of wound-healing. Of the nine nephrectomy cases, one, Case 21, died. The physician of Case 6 reports her in good health, but does not state how soon her wound healed. Case 13 was closed at operation and healed by primary union. Cases 15 and 18 healed at once, before they left the hospital. Case 20 healed after six months. Case 17 is still open after three years, the rib having become infected. Case 33 is still open after one year, and Case 28 is open after eight months, a piece of gauze having been discharged from the wound after five months.

Of special interest are the cases of nephrectomy and partial ureterectomy, because of the opportunity for examining the ureter microscopically. Of the seven specimens, two were not examined, four were tuberculous, and one showed a chronic ureteritis. Of the cases showing tuberculous ureteritis, Case 19 healed at once before leaving the sanitarium. Cases 8 and 23 closed after two years, and Case 24 is still open after sixteen months. Case 9, with chronic ureteritis, healed in four weeks.

Of the thirteen nephroureterectomies, nine ureters showed tuberculosis and four showed chronic ureteritis. Of the chronic ureteritis cases, Cases 1 and 26 closed rapidly, while Case 12 granulated for six months, and Case 2 for five years. All of the tuberculous ureter cases closed soon except Case 25, whose wound is still granulating slightly after eight months. The slow healing in Cases 2 and 12 can be explained only on the supposition of wound infection from the kidney during the operation.

Of the four cases of nephroureterocystectomy, Cases 16 and 32 died, and the wounds in Cases 22 and 31 healed promptly. Of the 24 cases in which the whole or a part of the ureter was removed the ureter was examined microscopically in 22, and of these 17 were tuberculous while 5 showed chronic inflammation.

From the above analysis it would seem, first, that tuberculosis of the ureter exists in a large proportion of cases of tuberculosis of the kidney; second, that a wound may close rapidly after the partial removal of a tuberculous ureter, or it may suppurate for years after the complete removal of a non-tuberculous ureter; but that, in general, the partial removal of a tuberculous ureter is followed by months or years of suppuration, while the complete removal results in rapid closure of the wound.

A General Summary of Results. One patient (Case 14) has not been heard from since leaving the hospital. Five patients, or 14 per cent. have died; two (Cases 16 and 32) from the results of the operation. Cases 4, 5, 21 and 32 had involvement of the other side. Two patients now living (Cases 2 and 3) may have tuberculous infection of the remaining kidney. Thirteen patients (Cases 3, 9, 10, 12, 18, 23, 24, 25, 27, 28, 33, 34, 35) still have bladder symptoms or are known to have a bladder lesion. Eleven of these, however, are in good health, many of them reporting better health than they have known for years. Two patients (Cases 29 and 30) on recent dismissal had colon bacillus infection of the remaining kidney, but they had very little pus in the urine, no symptoms, and considered themselves well. Nine patients, (Cases 1, 6, 8, 13, 19, 20, 22, 26, 31) are reported or known to be in perfect health. This gives us 22 out of the 35, or 63 per cent. to be placed in the good health class. The family physician of Case 7 writes that she is in fair health and shows no evidence of tuberculosis. Cases 11 and 15 are in poor health with symptoms of nephritis. Cases 17 and 38 have lung tuberculosis, but the disease is quiescent and the patients are apparently in good health.

Thirty-five is a comparatively small number of patients from which to draw dogmatic conclusions, but in view of the careful manner in which the above series has been followed I feel justified in presenting a practical summary as follows:

1. Urinary tuberculosis in women is a disease of early adult life.

2. It is usually primary in the kidney, although a majority of the patients complain first of bladder symptoms.

3. It is confined to one side in the vast majority of cases. If involving both sides, a very painstaking examination must be made of the separate urines to determine whether the treatment should be surgical or medical.

4. The disease should be kept in mind in dealing with any symptoms referable to the urinary tract; even such common occurrences as a supposed movable kidney or incontinence of urine should be carefully investigated.

5. Appendicitis and gall-stone colic must be differentiated. Any obscure or a typical case of supposed malaria or typhoid fever should remind one of this disease.

6. The disease is compatible with a long period of comparative health, and macroscopical and microscopical examination of our specimens shows that in some cases there is a tendency to spontaneous healing; but in spite of these two facts a careful study of these 35 cases shows the disease to be pre eminently surgical.

Case 1. E. L. P., aged 23. Admitted J. H. H. December 5, 1895.

Family history negative for tuberculosis.

The patient was never strong. She had scarlet fever at 16, and four years ago la grippe and a swollen left knee. The left knee is still weak. Duration of the urinary disease: She has had pain and weakness in the back and incontinence of urine since childhood. Since 10 years of age she has had bladder treatments, and for the past 6 years has had intermittent pain in the bladder. One year ago she suffered the first acute attack of pain in the left side and has had attacks every week since.

Examination: The left kidney is not palpable; the left ureter is enlarged and tender as felt over the pelvic brim and through the vagina. Cystoscopy shows the left ureteral orifice granular and red. Urine: amber, 1018, acid, much albumen, many pus cells and casts, no tubercle bacilli found on searching once. The right kidney was catheterized and yielded normal urine.

Operation: Kelly. Extraperitoneal left nephroureterectomy. One long incision from ribs behind to symphysis in front.

Pathology: Tuberculous pyonephrosis, chronic ureteritis.

Result: Letter, April 15, 1903. Perfectly well, married four years, two children. Wound healed "as soon as an 18 inch incision could be expected to."

Case 2. K. W., aged 30. Admitted J. H. H. December 7, 1895.

Mother died of tuberculosis.

The patient was delicate as a child. At 18 she was ill for 7 weeks with an obscure abdominal inflammation. Two years ago she suffered with an attack of sudden violent pain over the right kidney region, together with nausea, vomiting, chills and fever, and with frequency and burning micturition. Similar attacks have recurred about every three weeks since.

Examination: The patient weighs 225 pounds. The right ureter is felt through the vagina as a cord one centimeter in diameter and very tender. The bladder is normal except for redness about the right ureteral orifice. The urine contains blood and pus, and on one examination no tubercle bacilli are found. Normal urine is catheterized from the left side.

Operation: Kelly. Right nephroureterectomy, through lumbar and vaginal incisions.

Pathology: Tuberculosis of right kidney, chronic ureteritis.

Result: Letter, April 15, 1903. Now suffering with similar symptoms on the left side. Wound healed five years after operation.

Case 3. C. R., aged 26. Admitted J. H. H. in spring of 1889.

Her family history was not taken.

Eleven years ago she began to suffer with frequent and painful micturition and incontinence, all these symptoms being aggravated at the menstrual period. One year later pain began in the left side and her tubes and ovaries were removed. On admission she was very anemic and weighed but 90 pounds. The bladder condition caused almost constant agony and the patient could rest but little.

On examination the bladder and both ureters were thick and tender. Tubercle bacilli were repeatedly found in the urine catheterized from the left side. The urine catheterized from the right kidney was normal.

Operation: Kelly. From 1889 to 1903 four visits to the hospital. Repeated anesthesias and catheterization of the ureters for dilatation. Vesicovaginal fistula. Ureterovaginal fistula. Left nephroureterectomy, transperitoneal and vaginal.

Pathology: Tuberculosis of left kidney and ureter.

Result: Letter, November 5, 1895. Still some bladder symptoms, but enthusiastic over good health. Wound healed at once. Letter, April 15, 1903. In wretched health. Symptoms indicate involvement of the right side.

Case 4. M. B., aged 25. Admitted J. H. H. May 11, 1896.

Family history negative for tuberculosis.

Patient delicate as a child. In January, 1895, an attack of diphtheria and since then she has had frequent, burning and painful micturition. Four months ago pain in the left kidney and ureter. For the past three months a daily afternoon chill followed by fever. She shows extreme emaciation. There is general ulcerative cystitis. The left kidney is twice the normal size, and both ureters are thickened. The urine loaded with pus. The temperature hectic in type, varying from 97 to 104.2 degs. F.

Operation: Kelly. Left nephrotomy. 350 cc. foul smelling pus. A section of kidney taken for examination shows tuberculosis.

Result: The temperature after operation retained a hectic type. The patient grew worse and died eleven weeks after operation.

Case 5. M. H., aged 48. Admitted J. H. H. February 18, 1897.

No positive family history of tuberculosis.

Patient had scarlet fever at 6, but has otherwise been strong and well. She has enlarged axillary glands. Two years ago she began to have pain in her left back and a weak "sickening" feeling, and after six months pain in the bladder and frequency of micturition. The patient has lost weight and strength and is very anemic. The left kidney is enlarged and the left ureteral orifice is red and puffy, and pus is seen oozing from it.

Operation: Left nephrotomy. 350 cc. pus. The renal cortex only 5 mm. in thickness.

Pathology: Renal tuberculosis.

Result: Marked pyuria persisted even after the lumbar drainage, and the temperature ranged between 98 and 101 degs. F. A suppurating axillary gland was opened one month after the kidney operation. The patient gained in weight and strength and was comparatively well for some time after going home, but died two years later.

Case 6. R. J., aged 22. Admitted J. H. H. March 5, 1897.

Family history negative for tuberculosis.

The patient noticed thick ropey urine three years ago, and 18 months ago pain began with micturition. The pain and frequency have increased since. She is fairly well nourished. The appetite is poor and she has lost much weight and strength. The right kidney is enlarged. The right half of the bladder and the right ureter feel thickened and are tender. Bladder is normal except for an ulcerated area about the right ureteral orifice.

Operation: Kelly. April 10, 1897. Right nephrotomy. Cullen. Sept. 8, 1897. Intracapsular nephrectomy.

Pathology: Renal tuberculosis.

Result: Discharged Nov. 17, 1897, in good health with hemoglobin 97 per cent. Her physician reports that she is now married and in good health.

Case 7. C. M. C., aged 25. Admitted Sanitarium March 11, 1897.

Grandfather and mother died of tuberculosis.

Patient had fair health until three years ago when she was taken with a sudden cramp-like pain beneath the ribs on the right side. She had two similar attacks the same year and four attacks the following year. Now has almost continuous severe pair. She has had no bladder symptoms. After a consultation in March, 1897, she was sent to the mountains and placed on medicinal treatment, but her health became so bad that she returned for operation in October, 1897. She was then bedridden and was suffering severe pain in the right side, and had a daily rise of temperature.

The kidney was enlarged and tender and the tender right ureter could be easily palpated through the vagina. The bladder was normal except for a reddened right ureteral orifice. Many tubercle bacilli had been found by Minneapolis and New York physicians, and they were easily found after her admission. The left kidney was catheterized and the urine found normal.

Operation: Right nephrectomy and partial ureterectomy to pelvic brim.

Pathology: Renal tuberculosis. Ureter not examined.

Result: Lumbar sinus healed after several months. In June, 1902, was operated on for pelvic tuberculosis. Letter from physician in June, 1903. "Is now in fair health; no evidence of active tuberculosis."

Case 8. M. W., aged 28. Admitted to Sanitarium May 7, 1897.

Family history not taken.

Always good health until 3 years ago when the right submaxillary glands were removed for tuberculosis. The urinary symptoms began 11 months ago with frequent micturition and a sense of discomfort on holding the urine. For 6 months she has suffered attacks of sharp pain in the right kidney region. After consultation the patient was sent home for medical and climatic treatment and she improved for 6 months. She was taken with increased pain, chills and fever, and returned in April, 1898, in far worse health than at first admission. On examination there was no tenderness over kidneys or ureters. The right ureteral orifice was red and swollen, and many tubercle bacilli were found in the urine from the right kidney.

Operation: Kelly. Right nephrectomy and partial ureterectomy.

Pathology: Renal and ureteral tuberculosis.

Result: Third admission November, 1898, with granulated lumbar sinus which was curetted. Had gained 30 pounds since operation. Physician wrote in May, 1901, "patient in excellent health when last seen in August, 1902. The wound entirely healed."

Case 9. M. R., aged 33. Admitted J. H. H. April 16, 1898.

Family history negative for tuberculosis.

Always strong and well until the urinary trouble which began 4 years ago as a frequency of urination. About the same time a dull aching pain began in the right back, and for the past 6 months this has been increasing. Her general health seems fairly good. Her right kidney can be displaced below the costal border and seems of normal size. The right ureteral orifice is red and puffy, and the mixed urine has considerable pus.

Operation: Kelly. Right nephrectomy and partial ureterectomy.

Pathology: Renal tuberculosis. Chronic ureteritis. Two small calculi in the kidney.

Result: Letter from physician, June, 1903. The patient still has frequency of urination, and she now has some discomfort on the left side. No enlargement or tenderness can be detected in the left kidney or ureter. "The patient is in better health than I have ever known her."

Case 10. C. W., aged 26. Admitted J. H. H. May 3, 1895.

One brother had tuberculosis.

The patient had the usual diseases of children except scarlet fever. About ten years ago for a period of 5 or 6 months she had sharp intermittent pains in the left lumbar region, but does not recall urinury disturbance at that time. She dates her present illness from an attack of "typhoid fever" 5 years ago, since which time she has had some pain on urination. For three years there has been greater pain, and the frequency of voiding urine has increased. For six months there has been a dull aching pain in the left lumbar region.

The patient on admission appeared to be in fair health. The bladder and left ureter were thickened and tender on palpation through the vagina. There was extensive ulceration over the posterior wall of the bladder. Many tubercle bacilli were found in the purulent and bloody urine.

Operation: Kelly. Left nephroureterectomy. Curettage of bladder. This was the first patient in whom the kidney and ureter were removed through the separate lumbar and inguinal incision.

Result: Patient examined in June, 1903. Her general health better than for years. Still some pain and frequency of urination, and the posterior bladder wall shows about the same degree of ulceration.

Case 11. S. E. C., aged 49. Admitted J. H. H. December 30, 1898.

Family history: Grand-father, father, and one brother died of tuberculosis. One brother and one sister have weak lungs.

The patient has never been strong. She had "malaria" as a child, pneumonia at 25. Eight years ago was at Asheville, N. C., recovering from hæmoptysis and cough. For four years has had pain and tenderness in the right side, occipital headaches, swelling of eyes and hands, palpitation of heart, and frequent urination-

The patient has fairly good color and appears fairly well nourished. There are signs of old lesions in the apex of the right lung. The urine contains a large quantity of albumen, many hyaline and granular casts and some pus.

Operation: Kelly. Right nephrectomy and partial ureterectomy. Exploratory coeliotomy to examine left kidney.

Pathology: Renal tuberculosis. Ureter not examined.

Result: Patient seen in May, 1903. Her health was much improved and she was able to work very hard as principal of a city school for three years. Has now given up work because of nephritic symptoms and attacks like angina pectoris.

Case 12. M. A., aged 40. Admitted J. H. H., May 12, 1899.

One sister died of tuberculosis. Mother died of paralysis (she had chronic bladder trouble).

The patient had pneumonia at ten, followed by lung trouble. She was well until 28 when she had "catarrhal fever" with chills at onset. Three and one-half years ago she was taken ill with sudden severe pain in the urethra, and with 48 hours a severe pain in the right lumbar region. Since then there have been many attacks of pain referred to the perineum, with nausea, vomiting and severe shaking chills. Frequent urination has been an almost constant symptom. The patient is extremely emaciated. The right kidney is lobulated and very tender. The right ureter is palpable over the pelvis brim and through the vagina and is very tender. Cystoscopy shows the bladder to be ulcerated over the right hemisphere. Both kidneys were catheterized, normal urine being obtained from the left, while the right secreted very purulent urine in which no tubercle bacilli were found.

Operation: Kelly. Right nephroureterectomy. Two incisions, lumbar and inguinal. The ureter cut off above the uterine vessels; both wounds closed. The inguinal wound suppurated and healed only after six months.

Pathology: Renal tuberculosis. Chronic ureteritis.

Result: Letter, April, 1903. Symptoms of bladder trouble have persisted. Health has been better. Cough for past three months.

Case 13. M. S., aged 33. Admitted to Sanitarium April 26, 1898.

Family and past history not taken.

Patient had hæmoptysis ten years ago, and had a slight cough at times. Has recently been in the Adirondacks for lung tuberculosis and still has a few rales in both apices. Developed hæmaturia two months ago, and guinea-pigs inoculated with urine developed tuberculosis.

General health very good. Still has hæmaturia. At times the temperature registers 100 deg. F.

Both kidneys were catheterized and pyuria found only on the left side. Guinea-pigs were inoculated with urine from both sides and the pig inoculated from the left side developed tuberculosis.

Operation: Kelly. Left nephrectomy. Wound entirely closed.

Pathology: Renal tuberculosis.

Result: Physician reports in May, 1903, that the patient seems to be in perfect health.

Case 14. L. F., aged 22. Admitted J. H. H., September 5, 1898.

Family and past history not taken.

For two years the patient has had an indefinite pain in the left side, and for the past three months there has been a constant dull pain and sense of fulness. Two weeks ago she noticed a swelling. No bladder symptoms.

The patient was extremely emaciated, and on admission had a temperature of 101.7 deg. F. An immense tumor mass filled the left flank.

Operation: Stokes. Left nephrotomy. Large amount of greenish fetid pus.

Pathology: Tissue scraped from sinus three weeks after operation showed tuberculosis.

Result: Patient left hospital much improved, having gained in weight and strength. Not heard from since.

Case 15. B. V., aged 25. Admitted J. H. H., October 30, 1895.

Family and personal history excellent.

For two or three years the patient had suffered frequent attacks of pain in the right side and over the bladder region. During these attacks she had fever of a few days' duration. She had been treated for uterine trouble, and one year previous to admission had had the appendix and left ovary removed with no relief from symptoms. Shortly before admission her family physician discovered tuberclue bacilli in the urine. On admission she was six months pregnant, had high temperature and was very emaciated and weak. On catheterization hydropyoureter was found on both sides, the right side yielding a very purulent urine.

Treatment: Kelly. Abortion induced. Sent to mountains for three weeks. Left nephrotomy to determine condition of kidney. Sent home for six weeks. Right nephrectomy.

Pathology: Before operation many tubercle bacilli were found in the urine, using differential stain. The right kidney was completely involved in a condition of sclerotic atrophy. Many sections were made from all parts of the kidney and no tubercles could be found.

Result: The patient weighs 70 pounds more than at operation. She has had fair health alternating with attacks bordering on uremia. She suffers with severe pain in the left kidney region at times, but the urine is free from pus and casts and from the former colon bacillus infection.

Case 16. J. McH., aged 43. Admitted Sanitarium February 7, 1900.

No family or personal history taken.

The bladder was ulcerated about the left ureteral orifice. The left ureter was thickened. Pyuria, hæmaturia, marked albuminuria, culture negative; tubercle bacilli in a catheterized specimen.

Operation: Kelly. Left nephroureterocystectomy. Kidney removed through lumbar wound. Ureter and a portion of the bladder removed through a suprapubic median transperitoneal incision.

Pathology: Tuberculosis of kidney, ureter and bladder.

Result: Operation March 6. Evident rupture of bladder March 20th. Death March 21.

Caae 17. L. C., aged 22. Admitted J. H. H., July, 1899.

Family history not taken.

Nine years ago the patient had an attack of "typhoid pneumonia," and since then has been subject to attacks of pain in the left side. Has been supposed to have malaria at times for the past five years, suffering from repeated attacks of chills and fever. For the past four or five months with increased pain in the side there has been increased frequency of micturition.

The patient is very anemic and weak, the temperatute is hectic in type, reaching 103.4 deg. F. A large, painful mass in the left kidney region. The bladder normal except for a red, swollen left ureteral orifice. Pyuria and hæmaturia, no tubercle bacilli found on one examinatian.

Operation: Russell, July 20, 1899. Left nephrotomy. Miller, Feb. 26, 1900. Dilating of sinus. Many tubercle bacilli in pus of sinus. Kelly, March 16, 1900. Intracapsular nephrectomy.

Pathology: Renal tuberculosis.

Result: The patient has been doing heavy servant's work since her operation. She was in the hospital in December, 1902, with pleurisy. Letter, April, 1903, at times has pain in the right lung. Wound still open (necrosing rib).

Case 18. J. C. R., aged 29. Admitted Sanitarium, March 7, 1900.

No family history of tuberculosis.

Scarlet fever at seven with no sequelæ. Five years ago began to have ardor urinæ, and in a few months severe pain in the urethra. Three years ago in bed two months with "inflammation of the kidney." Eighteen months ago the urethra was forcibly dilated, and she has been having bladder irrigations since.

Examination of bladder shows diffuse ulceration. Bladder capacity is 22 ccm. Purulent urine catheterized from the left kidney.

Operation: Kelley; April 6, 1900. Suprapubic cystostomy and left nephrotomy. Closure of suprapubic opening. January, 1901, and April, 1902, plastic operations over the sphincter urethræ.

Pathology: Renal tuberculosis.

Result: Is now under observation. General health good. Bladder is normal. Still some incontinence apparently following overdistension of the urethra before her first admission.

Case 19. W. McC., aged 46. Admitted Sanitarium May 19, 1900.

Family history negative for tuberculosis.

Scarlet fever as a child; no other serious illness. For two years the patient has had frequency of micturition. Tubercle bacilli were found in the urine.

Operation: Kelly. Right nephrectomy. Partial ureterectomy.

Pathology: Tuberculosis of kidney and ureter.

Result: Letter, June, 1903. In perfect health; gained in weight from 130 to 167 pounds. Wound healed before leaving sanitarium.

Case 20. B. C. I., aged 30. Admitted J. H. H., June 16, 1900.

Family history negative for tuberculosis.

The patient had the usual diseases of childhood, but has otherwise been strong and healthy until the present illness which began nine months ago with bladder symptoms. She had painful and frequent micturition and has lost much weight and strength. Three months ago she was treated for la grippe and malaria, and she has been in bed the past four weeks with chills and fever.

On admission the patient was extremely cachectic, and it was a question whether she could bear a general anesthetic. Her temperature was 102.6 deg. F. There was possible involvement of the left apex. In the right flank was a large visible tumor extending quite to the crest of the ileum. The right ureter was thick and tender as palpated through the vagina. The bladder was normal except for an area of reddening and ulceration about the right ureteral orifice and about 4x6 cm. in extent.

Operation: Kelly. Right nephrectomy.

Pathology: Renal tuberculosis.

Result: Letter, April, 1903. Perfectly well since leaving hospital and doing heavy household work. Wound healed six months after leaving.

Case 21. P. L., aged 30. Admitted J. H. H., July 24, 1900.

Two uncles had tuberculosis. One brother died with "inflammation of the lungs." Since sixteen years of age the patient has had ten severe attacks of bronchitis. She has had none for the past four years. Three years and eight months ago her bladder symptoms began as an increased frequency of urination, and for two years there has been severe dysuria. The symptoms have been confined to the bladder. Three years ago she was said to have Bright's disease.

On admission the emaciation and weakness were extreme, the temperature was hectic, ranging from 98 to 105 deg. F. A large mass occupied the right flank region.

Operation: Kelley. Right nephrectomy.

Pathology: Renal tuberculosis.

Result: One month after operation severe pain in the left kidney region, bloody stools, headache, nausea and vomiting, suppression of urine. Died six weeks after operation.

Case 22. M. L., aged 33. Admitted J. H. H., March 5, 1901.

Father and mother died of "cancer of the stomach." One sister died of tuberculosis, and one brother of Pott's disease.

The patient at 18 had "typhoid fever," followed immediately by a bad cough for 2 years, and she was said to have consumption. Profuse leucorrhea during these two years, 1886 and 1887. In 1897 she had a double salpingectomy performed for pyosalpinx. Ten months ago she had an attack of severe pain in the left side radiating to the groin and bladder. The attacks have recurred about every two weeks, and recently they have been daily. There has been no disturbance of micturition except during the attacks when there has been a frequent passage of a small quantity of urine. With the attacks there has been nausea and movement of the bowels followed by chilly feelings and fever.

The patient on admission was well nourished and of good color. Neither kidney could be palpated, and the bladder was normal except for a red ureteral orifice. The urine contained much pus and an inoculation on agar was negative. Many tubercle bacilli in the urine catheterized from the left side.

Operation: Kelly; Hunner. Left nephroureterocystectomy. Three incisions, lumbar, inguinal and vaginal. A small section of bladder wall removed with ureteral stump through the vagina.

Pathology: Tuberculosis of kidney and ureter.

Result: Patient seen May 1, 1903. Perfectly well. No symptoms.

Case 23. H. C. M., aged 32. Admitted J. H. H., May 2, 1901.

Family history negative for tuberculosis.

Past history.—Scarlet fever as a child, throat trouble for years afterward. Seventeen years ago sudden sharp pain in bladder; in bed four days; frequent micturition. Since 1892 has been conscious of some bladder disturbance. In 1897 to 1898 had "seven-day chills," and in February, 1898, severe attack of pain in left kidney. "Mild prolonged typhoid" in 1895. On admission patient extremely emaciated; very large left kidney; thickened, tender bladder and left ureter. Left half of bladder extensively ulcerated. Temperature at times 103 degrees.

Operations: Kelly. May 3, 1901, Vesico-vaginal fistula. May 18, 1901, nephrotomy, large abscess, 500 cc. pus. June 15, 1901, left nephrectomy; partial ureterectomy. October 14, 1901, closure of vesico-vaginal fistula. October 17, 1902, excision of portion of ureter through the vagina. April 1, 1903, excision left half of bladder.

Pathology: Tuberculosis of kidney, ureter and bladder.

Result: Still under observation. Gained from 95 to 140 pounds; still has pain in course of left crural nerve; left half of bladder scarred and red; no ulceration.

Case 24. L. J., aged 57. Admitted J. H. H., May 11, 1901.

No family history of tuberculosis.

Patient has always been well. Present illness began nine years ago as a pressure feeling in vagina with frequent and painful micturition. Has had no symptom in kidney region.

On admission patient well nourished;

neither kidney palpable; thickened, tender bladder and left ureter; bladder ulcerated over left half. Capacity 40 ccm. Cultures sterile. Normal temperature. Tubercle bacilli found in urine.

Operation: May 15, 1901. Vesico-vaginal fistula; irrigations and repeated curettage. February 1, 1902, nephrectomy, partial ureterectomy. May 26, 1902, closure of vesico-vaginal fistula.

Pathology: Tuberculosis kidney and ureter.

Result: Is under observation. Good health; good appetite; sleeps well; at times is troubled with bladder symptoms; lumbar wound still open.

Case 25. A. P., aged 28. Admitted J. H. H., October 3, 1902.

Mother has "asthma and heart trouble." One brother died of tuberculosis. Patient has always enjoyed good health. Fifteen months ago dull aching pain began in left side; attacks every two weeks. Four months later pain in bladder; burning and frequency.

On admission fairly well nourished; hæmoglobin 70 per cent. Tenderness and muscle rigidity in the left kidney region; thickened, tender left ureter felt through vagina. Almost universal ulceration of bladder. Temperature hectic; subnormal to 101.7 deg. Many tubercle bacilli in urine.

Operation: Kelly. Left nephroureterectomy. Three incisions, lumber, inguinal and vaginal.

Pathology: Tuberculosis of kidney and ureter.

Result: Letter April 15, 1903. Still has bladder symptoms and hæmaturia. No headache. Lumbar wound is still granulating. "Except for bladder trouble I feel as well as I ever felt in my life."

Case 26. Mrs. M., aged 47. Admitted Church Home, 1902. (J. H. H. Bulletin, 1902, Vol. XIII, p. 149).

Family and past history not taken.

Her only symptoms were slight frequency of micturition and loss of weight. Is fairly well nourished. Cystoscopy shows slight reddening around left ureteral orifice. Both kidneys catheterized. Urine from right kidney some albumin.

Operation: Cullen. Left nephroureterectomy.

Pathology: Tuberculosis kidney; chronic ureteritis.

Result: Patient now perfectly well.

Case 27. H. R., aged 24. Admitted J. H. H., November 5, 1902.

Family history negative for tuberculosis.

Scarlet fever at 7, dropsical for a time and never robust since. Two years and four months ago began to have pain in right back and at the same time frequent and painful urination and tenesmus, with blood. Was first in hospital June 25, 1901, when diagnosis was made of tuberculosis of the right kidney, ureter and bladder. Refused operation. Health improved until recently.

On admission general condition good. Right kidney easily palpated and very tender. Cystoscopy: Bladder normal except right posterior wall, where about one-third of the entire organ is deeply inflamed. Temperature normal.

Operation: Cullen. Right nephroureterectomy. Lumbar and inguinal incisions. Drainage of both wounds with rapid healing.

Pathology: Tuberculosis of kidney and ureter.

Result: Letter May 8, 1903. Health improved. Rheumatic pains in knee, soreness in back, more on left side. Frequent micturition and discomfort if urine is held.

Case 28. A. T., aged 34. Admitted J. H. H., November 14, 1902. (See American Gynecology, 1902, Vol. I, p. 561).

Two uncles died of tuberculosis.

Never ill; never robust. Suggestive history of lung trouble eight years ago; rheumatism six years ago. Stricture of ureter March, 1902. Four years ago, during pregnancy, began to have frequency of micturition, When child was three months old severe attacks of kidney colic. March, 1902: Ureterovesical anastomosis by Dr. Hunner, and in June, 1902, laparotomy for tuberculous peritonitis and intestinal obstruction.

On admission in October, health fairly good. Slight tubular modification at both apices. Hectic temperature. Cystoscopy: Diffuse ulceration about ureterovesical anastomosis.

Operation: Kelly. Right nephrectomy.

Pathology: Tuberculosis of kidney. Tuberculous pyelitis.

Result: Letter April 20, 1903. Temperature normal, wound not healed, no headache, some bladder symptoms.

Case 29. Miss P., aged 52. Admitted sanitarium Octocer 15, 1902.

Family history negative for tuberculosis.

For thirteen months has had pain and increased frequency and recently marked hæmaturia. No pain in back. General condition on admission poor. Hemoglobin 48 per cent. Cystoscopy: Bladder generally inflamed and deeply ulcerated about left ureteral orifice. Both ureters catheterized: Pyuria left; colon bacillus infection and slight pyelitis on the right.

Operation: Kelly. October 21, 1902. Vesicovaginal fistula. Nov. 11, 1902, suprapubic drainage. Feb. 26, 1903, left nephroureterectomy; ureter removed down to uterine vessels. April 7, 1903, closure vesicovaginal fistula.

Pathology: Tuberculosis of kidney and ureter.

Result: Discharged May 19, 1903. Bladder perfectly normal; no symptoms. Some pus and epithelial cells in urine with colon bacillus infection. Is gaining in weight and strength.

Case 30. F. S. S., aged 36. Admitted sanitarium March 13, 1903.

Family history negative for tuberculosis.

Past history good. Three and one-half years ago patient suffered acute attack of pain in bladder and ureters with burning micturition, the attacks lasting only one-half hour. Six months ago after an attack of pneumonia and septicemia pain began in right side and has continued.

General condition on admission fairly good. Hemoglobin 85 per cent. Right kidney palpable, small. Right ureter thickened. Right kidney catheterized: Pyuria; no tubercle bacilli found.

Operation: Kelly. Right nephroureterectomy.

Pathology: Tuberculosis of kidney and ureter.

Result: About one week after operation was delirious for several days, although urea percentage was higher than before operation. Discharged April 23, 1903, in excellent condition; urine showing a trace of albumin and a few pus cells.

Case 31. S. S., aged 29. Admitted J. H. H., January 18, 1902.

Father probably has tuberculosis. One brother died after lung trouble. One sister has tuberculosis of lungs, right kidney, and bladder.

For the past nine years patient has had pain in the right back, frequent and painful micturition and at times chills, fever and vomiting, and has been treated for malaria.

General condition shows marked cachexia. Enlarged right kidney, enlarged and tender right ureter. Cystoscopy: Ulcer about right ureteral orifice and independent ulcer in vertex of bladder. Temperature varies from normal to 100.2 degrees. No tubercle bacilli found on two examinations. Fairly marked tuberculin reaction.

Operation: Hunner. Right nephroureterocystectomy. Two incisions, lumbar and inguinal. Portion of bladder removed with ureter without disturbing uterine vessels. The vertex ulcer removed through suprapubic extraperitoneal incision.

Pathology: Tuberculosis kidney and ureter; ulcerative cystitis.

Result: Examined May 22, 1903; in perfect health; nursing a five-months-old baby. Bladder everywhere normal.

Case 32. M. E., aged 30. Admitted City Hospital May 1, 1902.

One sister probably has tuberculosis. Patient was delicate as a child; health good since ten years of age. Three years ago had first attack of severe pain in right kidney with chills, fever and vomiting. Similar pains in left side began nine months ago. Has had bladder symptoms for five months. Five months ago the right kidney was suspended for supposed Dietl's crises.

On admission patient was very anemic and weak. Both kidneys were palpable and tender. The left kidney was very large and left ureter greatly thickened. Patient suffered from frequent chills, fever, and vomiting, the temperature frequently reaching 103 and 104 deg. The urine contained much pus and blood, and tubercle bacilli were found in the urine catheterized from either side.

Operations: Hunner. Vesicovaginal fistula. Patient placed in tub on constant irrigation. After healing of bladder left nephroureterocystectomy and closure of vesicovaginal fistula.

Pathology: Tuberculosis of kidney and ureter.

Result: Uremic symptoms; leakage of bladder wound fourth day; death sixth day.

Case 33. D. H., aged 19. Admitted Union Protestant Infirmary, July 7, 1902.

Sister of S. S., Case 31, above.

Patient had severe bronchitis one year ago with purulent sputum and chills. The cough has persisted. The bladder trouble began one year ago with frequent micturition. Six months later, pain and stiff feeling in back and pain in right inguinal region and over bladder.

On admission patient was well nourished the right kidney and ureter enlarged and tender. The bladder showed almost general ulcerative cystitis. Many tubercle bacilli in urine.

Operation: Hunner. July 8, 1902, vesicovaginal fistula. Placed in tub on irrigations. July 31, right nephrectomy.

Pathology: Tuberculosis of kidney.

Result: Still under treatment for extensive ulceration of bladder. Lumbar sinus not healed.

Case 34. A. L., aged 30. Admitted Church Home, March 16, 1903.

Mother died of tuberculosis.

Past history good. Bladder trouble began three years ago with increased frequency of urination. For the past three months there has been more or less incontinence and the patient has been very tender over the left side. At present there is absolutely no control of urine.

General conditions fairly good. Left kidney and ureter enlarged and tender. Left half of bladder inflamed and ulcerated. Many tubercle bacilli in urine catheterized from left kidney. The temperature is normal, except for slight elevation.

Operation: Hunner. Left nephroureterectomy.

Pathology: Tuberculosis of kidney and ureter.

Result: Discharged May 1, 1903. Bladder much less inflamed; holds 120 ccm. of urine without discomfort.

Case 35. A. B., aged 30. Admitted to Church Home May 24, 1903.

Family and past history negative.

Two years ago noticed a swelling on the right side. Seven months ago bladder symptoms began together with pain in the right back passing through to the groin. I examined the patient two years ago and made a diagnosis of movable right kidney. There were no symptoms at that time.

Her general condition on admission was fair. The right kidney and ureter were enlarged and tender. The right third of the bladder was inflamed and ulcerated and several white polypi were situated near the uretical orifice. Many tubercle bacilli in the urine catheterized from the right kidney. The temperature showed slight elevation.

Operation: Hunner. Right nephroureterectomy. Lumbar and inguinal incisions. Ureter excised down to uterine vessels. Rapid healing of both wounds.

Pathology: Tuberculosis of kidney and ureter.

Result: Discharged June 21, 1903. Bladder shows an area of inflammation 3 cm. in diameter about the right uretical orifice. Holds 360 ccm. of urine without discomfort.

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Methods to Hasten Epidermization — With Special Reference to Skin Grafting.*

By Stuart McGuire, M. D., Richmond, Va., Professor of Principles of Surgery and Clinical Surgery, University College of Medicine; Surgeon in Charge St. Luke's Hospital; Visiting Surgeon Virginia Hospital; Consulting Surgeon Home for Incurables.

Every practitioner is frequently called on to treat loss of cutaneous surface due either to injury or disease. If the area is small, repair is usually rapid and complete, but if it is large, repair often progresses to a certain point and then ceases. In the one case the capacity of the germinal cells is sufficient to meet the demand made on them, in the other the amount of material required is more than they can produce.

It is the object of this paper to discuss methods to hasten healing in cases where the process is slow or at a stand still. No effort will be made to review the literature of the subject, and only the results of practical experience will be given.

To secure epidermization, the first step should be to stop suppuration. The second should be to stimulate normal regeneration and to protect the embryonal cells resulting. The third, in case the first two are insufficient, should be to augment nature's reparative forces by grafting the bare area with epithelial tissue of sufficient vitality not only to live but to grow.

These three indications for treatment must be followed in the management of every granulating wound, whether it be a small ulcer or an extensive burn. They cannot be carried out independently, but must be combined. They will not be discussed separately, but collectively under the different dressings commonly employed.

Moist Dressings. After the preliminary cleaning of the wound and adjacent surface, the first treatment usually tried is the moist dressing, the character varying from the cold water dressing of our fore-fathers to the moist corrosive sublimate dressing of the antiseptic extremist of the present day. The method of application consists in saturating a pad of absorbent cotton with the fluid selected, applying it to the raw surface, and preventing rapid evaporation by covering it with a layer of oil silk. The cotton should be wet as often as it becomes dry, and should be changed as often as it becomes soiled. The solution employed should not be a strong antiseptic, as it would kill cells as well as germs, but it should have an inhibitory action in microbic life. The three that will be found most satisfactory are *Chloral hydrate solution* (chloral hydrate ʒi, water oii); *Thierschs solution* (salicylic acid ʒss, boric acid ʒiii, water oii), and *acetate of aluminum solution* (alum ʒvi, acetate lead ʒixss, water oii) They may be used either hot or cold, and should be employed in conjunction with rest and elevation. I have had many a swollen and rebellious leg ulcer come to me, scarred with caustics, gritty with antiseptic powders, or filthy with greasy ointments, but not one that did not yield readily when the patient was put to bed, the limb elevated and the part treated with hot chloral dressings.

Dry Dressings. The treatment of granulating surfaces by dusting them with antiseptic powders has been made undeservedly popular by the advertisements of firms that had proprietary preparations to sell. The powders most frequently employed are iodoform, aristol, dermatal, bismuth, boric acid and oxide of zinc. In some cases they do good, but in most instances they do harm. Chemically they destroy germs and lessen suppuration, mechanically they destroy embryonal cells and retard healing. When first applied to a wound decided improvement is seen, but continued use is followed by irritation due to absorption of fluid and the formation of crystalline concretions that act as foreign bodies, or broad incrustations that prevent the escape of pus or other wound accretions. I am free to say that I do not use dusting powders. There has not been a grain of iodoform in my private hospital for the last three years, and its banishment has not proved detrimental to patients, but exceedingly beneficial to the atmosphere of the institution.

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*Read at the meeting of the Medical Society of Virginia, held in Roanoke, Sept. 15-17, 1903.

Oleaginous Dressings. The use of salves and ointments in the treatment of superficial wounds has fallen into unmerited disfavor. Because, before the day of antiseptic surgery, they were abused is no reason why they should now no longer be used. Some preparations quickly become rancid and should be avoided; others remain sterile indefinitely and may safely be employed. Vaseline, lanoline and castor oil, plain or medicated, will give better results in some cases than any other application. They exert a feeble antiseptic action, thus lessening suppuration; they exclude the air, thus relieving pain; and they prevent the adhesion of overlying dressings, thus saving the embryonal cells from mechanical injury. In extensive burns I have found nothing better in the early stages than a 5 per cent. mixture of ichthyol and vaseline, and in sluggish granulations, especially of a tuberculous character, I have never failed to see good to come from the application of a combination of 1 per cent. carbolic acid, 5 per cent. Balsam Peru and 94 per cent. castor oil.

Nutritive Dressings. Considerable benefit will sometimes be derived in the treatment of a granulating wound by the use of a dressing that supplies food directly to the germinal cells and their offspring. Proliferation is often arrested by starvation, and feeding is the logical remedy. The agent employed should be aseptic, non-irritating, and should contain nutritive material in an easily absorbable form. The preparation that in my opinion most nearly meets these requirements is Valentine's Meat Juice. It is sterile, contains no alcohol, is rich in food stuff, and has practically the same percentage of sodium chloride as the normal serum of the blood. It should be diluted with ¾ water, warmed to the temperature of the body, and applied on cotton in the form of a moist dressing. My experience has been that it does a great deal of good for a short while, but then loses its effect. As soon as pale granulations become pink and healthy it has fulfilled its function and should give place to some other dressing.

Alterative Dressings. Cells, like individuals, sometimes without assignable reason develop disturbances of nutrition requiring alterative treatment. In the management of a granulating wound there is often call for local medication. Experience alone can teach the surgeon the agent to employ and the time and method of its application. Nitrate of silver, mercurial ointment, chloride of zinc and sulphate of copper are all useful and time-honored remedies. Among newer preparations must be mentioned protonuclein. I have several times seen indolent or foul granulating areas that had defied a half dozen other lines of treatment improve under its use as if by magic.

Protective Dressings. In direct contrast to granulating surfaces that need stimulating or alterative treatment are those that are doing well and only require protection. When the wound is healthy and healing progressing satisfactorily, nothing is more mischievous than meddlesome interference. All that should be done is to prevent infection by cleanliness, and to avoid injury to the newly formed cells by mechanical protection. Cleanliness is secured by changing the dressings as frequently as they become soiled and bathing the wound with normal salt solution. Protection is best accomplished by interposing some impervious material between the granulations and the meshes of the overlying gauze, into which they would otherwise become entangled. In my experience the best results follow the use of strips of rubber dam, collodion film, or Cargile membrane placed lattice-wise so as to afford drainage. Rubber dam is the material used by dentists, and can be sterilized by boiling. Collodion film can be prepared by pouring collodion on an aseptic sheet of glass, allowing it to harden and then cutting it in strips. Cargile membrane is made from the peritoneum of an ox, and can be bought on the market in germ proof envelopes.

Proliferating Dressings.—When the destruction of skin is so extensive that the normal reparative power is insufficient to cover the granulating area with epithelial cells, recourse must be made to skin grafting. It has long been known that bits of cuticle properly planted on fresh wounds or healthy granulating surfaces would become adherent and grow, thus protecting underlying structures and acting as independent foci of epidermization for adjacent tissue. The application of this fact with epithelial cells secured from different sources and applied by various methods has enabled the surgeon to heal wounds quickly and certainly which otherwise would be slow to close, or perhaps become permanent ulcers.

Skin grafting, when practiced on newly made wounds is called primary grafting. When practiced on granulating surfaces it is called secondary grafting. If the surface be a fresh one, care must be taken to perfectly arrest hemorrhage before applying the grafts, otherwise bleeding will detach them. If the surface be an old one, care must be taken to stop suppuration before applying the grafts, otherwise pus germs will devitalize them.

Skin grafts may be obtained from the patient and then are called autographs; they may be cut from another person and then are called heterographs, or they may be secured from an animal and then are called zoographs.

There are three recognized methods of skin grafting. Reverdin's, consisting in cutting small particles from the superficial layers of the skin with scissors and planting them at intervals over the surface to be covered. Thiersch's, consisting in cutting broad strips from the superficial layers of the skin with a razor and placing them so as to completely cover the wound area; and Wolfe's, consisting in the dissection of a piece of skin the entire thickness of the structure and fitting it to the defect to be remedied.

The dressing after any of the above methods consists of a lattice work of protective strips over which is placed a pad of gauze wet with normal salt solution. This should be removed and replaced at the end of the third day, and the subsequent management of the case carried out on general surgical principles.

The instruments required for skin grafting are so few, the operation itself so simple, and the results secured so immediate and satisfactory that the surgeon who does not avail himself of it in suitable cases does an injustice both to himself and his patient.

Primary Skin Grafting should be employed after the removal of an epithelioma or other superficial growth, provided infection can be prevented, hemorrhage arrested, and ligatures and sutures avoided. The depression due to the removal of tissue will fill up beneath the grafts and the deformity will be less than anticipated. I have removed a growth the size of a silver dollar from a nose, grafted it at once with skin from the arm, and discharged the patient with a perfectly healed wound in ten days from the operation.

Secondary Skin Grafting should be employed when ligatures are used to arrest bleeding, or sutures to secure partial coaptation; where infection is likely or already exists; or where the excavation is deep and a large amount of granulation tissue is necessary to fill it. In operating for cancer of the breast, where approximation of the margins of the wound is secondary to extirpation of the diseased tissue, I remove the malignant growth as completely as possible, bring the cut edges of the skin together as nearly as practicable, apply a protective dressing, and a week or ten days later remove the stitches and then skin graft the granulating area.

Reverdin's Method should be employed where the area to be covered is small, and where the administration of a general anesthetic is contra-indicated. The surface to be grafted and the site from which the grafts are to be taken should both be prepared. The skin is then elevated into a cone by means of a sharp tenaculum and a small piece snipped from its superficial layer by means of a pair of curved scissors. The fragment is at once transferred to the area to be grafted and carefully seated on the granulations, care being taken to prevent the edges curling inward thus preventing apposition of raw surfaces. This is repeated until a sufficient number of grafts have been planted to thickly stud the bare area. The operation of cutting the grafts can be made painless by the use of the chloride of ethyl spray. I have found the above method very satisfactory, especially in weak, nervous patients, where a more formidable operation would have a bad effect. The space between the grafts is rapidly covered and the resulting scar is good.

Thiersch's Method should be used when the surface to be covered is large and when the patient is either under an anesthetic or its administration will be compensated for by the more rapid recovery it promises. The grafts are obtained by making the skin tense and flat, either manually or by special hooks, and cutting off the superficial layers by a to and fro sawing motion of a sharp razor. The larger the size of the grafts the better. Usually they are an inch wide and four or five inches in length. Care should be taken to remove only the upper layer of the skin, otherwise the wound inflicted may prove as difficult to cure as the wound the surgeon is endeavoring to remedy. As the grafts are cut they are dropped into a basin of warm saline solution. Afterwards they are carefully placed on the area to be grafted, the edge of one graft overlapping that of the adjacent one. Thiersch's method of skin grafting is the one most frequently practiced and the one that gives the most brilliant results. The objections to it are that it necessitates the use of an anesthetic, and the site from which the grafts are cut is painful and takes some days to heal.

Wolfe's Method should only be employed in exceptional cases. The surface of the area to be grafted should be thoroughly revivified and the margins made fresh and vertical. All bleeding should be completely arrested. The new skin to be used as a graft must be dissected from some other site. The entire thickness of the skin should be removed, but no subcutaneous fat taken with it. The outline of the incision should preferably be an ellipse to permit of closure of the defect by sutures. The skin removed should be one-third larger than the defect to be covered to allow for shrinkage. The graft, after having been placed in its new position, may be retained by sutures or reliance placed on overlying dressings. The method is uncertain in results, but may sometimes be used with advantage. I remember one case where I planted a single piece of skin having an area of some 16 square inches. The graft was obtained in retrenching the scrotum of a man for varicocele and was planted on a woman who had been operated on some days previously for cancer.

In addition to the recognized methods of skin grafting just described, occasional reference will he found to grafting wounds with the skin of an egg, with the pellicle of a blister, and with dry epidermal scales, such as scrapings from callosities or dandruff from the head. I have tried all these expedients with unsatisfactory results. The only reasonble sources from which to obtain vital epithelial tissues are: the skin of the patient, autographs; the skin of another individual, heterographs, and the skin of a lower animal, zoographs.

Autographs are usually cut from the patient's thigh or shoulder. They furnish the material most likely to prove successful and should be employed except in cases where the patient's general condition is bad or where the area to be grafted is very extensive. The practice, however, is not free from annoyance or distressing complications. A woman came to me not long ago with an epithelia of long standing on the vertex of her head. It originated in an old scar and was about four inches in diameter. I shaved her head, made an incision around the growth, and scalped her. The wound was treated with a moist antiseptic dressing until it had filled with healthy granulations to the level of the margins. I then skin grafted the bare surface by Thiersch's method, cutting the grafts from the deltoid region. The grafts took beautifully, and in two weeks she was apparently well. Several months later she came back to the hospital. Her head looked like a tonsured monk and the skin on the bald area was perfect, but the shoulder from which the grafts had been cut gave her much pain. On examination it was found to be the seat of a keloid growth, the size of a man's hand. I had cured her of cancer only to give her keloids.

Heterographs are obtained from another individual, from amputated extremities or from fresh cadavers. They usually grow well and should be employed when they can be secured from a satisfactory source. They entail the danger of infecting the patient with syphilis, tuberculosis, and other diseases, which must be carefully guarded against. The question of the necessity of the grafts being the same color as the skin of the patient on which they are planted is still unsettled. It is claimed that a negro skin grafted on a white person will lose its pigment, and that white skin grafted on a negro will become pigmented. A few years ago I had an opportunity to test the question. A negro man as black as the ace of spades had his leg crushed. It was amputated, but the flaps sloughed, leaving a granulating area three or four inches in diameter. It was determined to skin graft it, and my assistants were directed to prepare the man for the operation at the next clinic. When the patient was brought into the amphitheatre I had just finished amputating the leg of a white man. On the spur of the moment I decided to cut the grafts from the white leg and plant them on the black one. The operation was done by Thiersch's method with satisfactory results, the patient being discharged as cured in three week's time. Two years afterwards the man came back to the clinic on account of some other trouble. An examination of the grafted stump showed that the grafts were as white as they were on the day they were planted. While one case proves little, the result is significant. It has for obvious reasons deterred me from reversing the experiment and grafting a negro's skin on a white patient.

Zoographs are obtained from one of the lower animals, the frog, chicken, pig, dog, cat, rabbit, or guinea pig, being most commonly used. They do not grow as readily as grafts from the skin of a human being, and they should not be employed when other sources of supply are available. Still there are certain conditions where they are not only useful but are the only means by which a patient can be cured.

A small negro child was brought to the clinic last winter who had been severely scalded several months before. Some healing had occurred at the margins of the burns, but effort at repair had ceased and there was a granclating surface on the body covering an area of over one hundred square inches. The child was treated until the granulations were healthy, and then came the question of where to get the skin with which to graft it. The child was too small and its condition too feeble to furnish the grafts from its own person. The mother, relations and friends all declined to make the necessary sacrifice. No jail bird would volunteer as a victim even at the promise of liberty, and applications to all the hospitals in the city seemed to show that for the time at least surgeons had stopped amputating limbs. As a last resort recourse was made to zoographs. A healthy six week pig of chocolate color was purchased. It was carefully shaved and given frequent scrubbings and antiseptic baths. The day before the operation the belly was prepared as if for abdominal section. The grafting was done before the class of the University College of Medicine. The pig was brought in on one table, the pickaninny on another. Grafts were cut from the belly of the pig and planted on the back of the child. The usual dressings were applied, and for two weeks everything went well and it was thought the operation had been completely successful. The wound itched, however, and one night the child got its hands beneath the dressing and scratched off a large portion of the new and tender skin. While the result was a partial failure enough of grafts remained to demonstrate the fact that pig skin would grow. More recently I have had other cases that were perfectly cured by this method.

Dr. William Flegenheimer, a graduate of the Medical College of Virginia, and formerly Resident Physician to the City Hospital, reports in *The Virginia Medical Semi Monthly*, (issue of June 26th, 1903), a case of successful pig-skin grafting in which an extensive defect in the cutaneous surface of a man was restored by grafting with the entire thickness of the pig-skin. He states that "at the present time the wound is completely healed, and, strange as it may appear, it has a nice growth of fine hair upon it." This is the only case to my knowledge where pig-skin grafting has been done by Wolfe's method, and it will be interesting to watch the development. In grafting by Reverdin's or Thiersch's method the hair follicles are of course not transplanted.

Dr. J. Hamilton Browning of the University of Virginia, in a personal letter, dated February 5th, 1903, has reported another interesting and successful case of pig-skin grafting. The case was one of railway injury of the thigh, resulting in the loss of 225 square inches of cutaneous surface. The grafting was done in three stages, with a week's interval between each, one-third of the wound being covered at a time. During healing there was infection of the wound with the bacillus pyocyaneous causing so much exfoliation that it was feared the operation had proved a failure. The surface remained covered, however, with a thin, white film that looked like coagulated albumen, and microscopic examination of this film proved it to be epithelial tissue. The wound ultimately completely healed, and the result was all that could be desired. Dr. Browning concludes his letter as follows: "I had pig prepared just like I do a patient for an abdominal operation. I always selected a sow pig as they are easier to keep clean." Whether the last statement is based on fact or on prejudice I leave my country friends to discuss.

Double Nephropexy, Curettage of the Uterus, and Ventral Suspension.

By Augustin H. Goelet, M. D., New York, Professor of Gynecology, New York School of Clinical Medicine; Geological Surgical Clinic at Metropolitan Hospital.

(*Reported expressly for Charlotte Medical Journal.*)

Gentlemen:—The first patient upon whom we will operate to-day is one you saw at my clinic yesterday. You all examined her, and you will remember that she has both kidneys prolapsed—the right below the level of the umbilicus (fourth degree), and the left with its upper pole below the last rib in front (third degree). She has many of the symptoms which we so often find associated with this condition, is very thin and poorly nourished and complains of inability to perform the duties required of her because of great fatigue and lassitude when she is on her feet. This is caused by the dragging of the kidneys. She tells us that she has lost considerable flesh in the past year or two, though she is not conscious of any particular pain except backache. She is 38 years old and single. She menstruates regularly every month, but the period has been prolonged at times during the past year. We found the uterus somewhat enlarged and retroverted and there was evidence of endometritis. Examination of her urine shows that there is already a chronic pyelo-nephritis.

You recall that when the patient was examined in the erect position, there was no difficulty in palpitating both kidneys and both were found prolapsed without any effort being made to displace them, such as taking a deep inspiration. With the patient in the recumbent position, however, neither kidney was displaced, and it required considerable effort to dislodge the right so it could be restrained below the border of the rib for palpitation, and the left kidney could not be displaced in this position even on forced deep inspiration or coughing. This demonstrates forcibly the advantage of examining these patients in the erect position in the manner I have so often described.

The patient is now ready, and we will proceed with the operation. I shall fix both kidneys by the method I have described, after which the uterus will be curetted and the displacement will be corrected by a ventral suspension. The incision for reaching the kidney is made parallel with the outer border of the erector spinæ muscle from the last rib downward for about three and a half inches, the patient being placed prone upon the table, face down, with an air-pillow under the abdomen. When the skin and fat have been divided, the knife is laid aside and the remaining structures are separated with blunt hooks and drawn apart with broad retractors. The fatty capsule when reached is opened at the upper angle of the incision, the adhesions between the kidney and the fatty capsule are separated and the kidney is delivered through the incision on to the surface of the back. Care has been taken to detach the colon completely from the kidney. The sustaining sutures, two in number, of silkworm gut are now inserted without splitting the fibrous capsule which is unnecessary and most unwise. One suture is placed at about the center of the kidney and the other between this and the lower pole of the organ. Each suture has three insertions under the fibrous capsule only. The redundant fatty capsule is now removed and the kidney is replaced. The ends of these sustaining sutures are carried from within through all the structures of the back and are brought out through the skin at the upper angle of the incision. They are tied over a fold of guaze which prevents cutting through the skin and loosening of the suture loop.

Now that these sutures are tied, you observe that the kidney has been drawn up into its normal position and that it is stationary and does not respond to the movements of respiration as it did before.

Gauze is now packed around and under the lower pole of the kidney to relieve the strain on the sutures and its end is brought out at the lower angle of the incision for drainage. The superficial fascia is now brought together with a continuous catgut suture and the skin is approximated with a subcuticular suture of fine catgut.

We will cover the wound and repeat the operation on the other side. This done, we will cover both wounds with a plentiful supply of gauze to absorb the oozing from the lower angles of the wounds and hold it in place by adhesive strips and a binder.

The gauze drain is removed in 48 hours and fresh dressings are applied. The wounds will, as a rule, require little or no further attention until the sustaining sutures are removed, which will be done on the twentieth day, or the day before the patient gets up, as she is kept in bed for three weeks. During this period of confinement to bed she is not permitted to turn from side to side but is kept on her back so as to avoid any dragging of the kidneys on the sutures.

The uterus has been curetted, and now we will proceed to open the abdomen and suspend the uterus. This requires an incision of not more than two inches and does not require elevation of the hips as the patient has been thoroughly prepared for the operation and the bowels are not distended. As soon as the peritoneum is opened it is caught on each side near the lower angle of the wound with hæmostatic forceps, and two fingers are inserted through the abdominal incision into the pelvis, the fundus is brought up and caught with tenaculum forceps.

The suspension sutures are inserted through the peritoneum and sub-peritoneal fascia on one side near where it is caught by the forceps, then through the uterine wall at the posterior face of the fundus and again through the peritoneum and sub-peritoneal fascia on the opposite side. The second suture is inserted near the other on the peritoneal surface just above it and near but just below the other in the uterine wall. The tenaculum forceps are now removed and the sutures are tied, the knot and whole suture being within the peritoneal cavity, as the peritoneal margins are united over them in closing the abdominal incision. Silk of medium size is employed for these sutures.

The abdominal incision is closed in layers with continuous suture of No. 1 Cumol catgut, the peritoneum and lower border of the muscle being included in the first layer, and the fascia in the next. The skin is united by the subcuticular suture of the same material. The usual dressing is applied.

The reason for doing ventral suspension in this case, though the uterus was not confined by adhesions, is that the utero-sacral ligaments are completely relaxed and incapable of regaining their tone, and no other operation would support the uterus satisfactorily. Shortening of the round ligaments either in the inguinal canal or within the abdomen wound only pull the fundus forward but would not prevent it from dragging down in the pelvis, and after a time the uterus would be in as unfavorable a position as it was before the operation and the patient would be quite as uncomfortable.

The Prevention of Insanity.*

By Dr. Lena A. Beach, Cherokee, Iowa.

The object of this paper is not to bring out new ideas in regard to insanity, so much as to give you something which may be of benefit to you as practitioners of medicine. Possibly to cause you to realize a little more fully the advantages which are yours to aid in the decrease of a disease which is certainly increasing with great rapidity.

When alienists have reached the point in the knowledge of this disease that they can say that it is due to any one thing, as tuberculosis is to the tubercular bacillus, then they can do some very excellent work in eradicating it; but, until then, we will have to strive to relieve those conditions which seem to be most effectual in its production.

I have searched the records of the Cherokee State Hospital carefully to find what are given as the causes of insanity. Out of 659 cases, find 205 the causes of which are not given or are unknown. Of the remaining 454 cases, various causes are assigned, as intemperance, epilepsy, overwork, worry, disease, masturbation, fright, domestic troubles, child-birth, etc., but in only 54 is heredity given as having any influence.

By heredity the average person thinks insanity must have existed in the immediate family to such an extent that medical treatment was sought for the same. The relatives are very prone to conceal any eccentricities or mental defects which may have existed in the family, and few are able to tell much about their ancestors, thus are we robbed of the knowledge of the most potent factor.

Alcoholism, neurotic conditions and syphilis all tend to build firm foundations for mentally weakened conditions. The offspring of such parents is poorly constructed, as it were. Has a weak, unstable, nervous organization. There may be a struggle for existence from the first, but more often there is not the noticeable difference until he has begun to mingle with the world. His playmates will designate him as "queer." As time advances his oddities become more characteristic. This individual may go through life without ever becoming the inmate of an institution, but the chances are that if any severe mental strain is brought to bear, his mind will become markedly unbalanced. For instance, if two hoops are started rolling down hill—one is given a strong, even start, the other a weak, uncertain one. There may be no noticeable differance in their course at first, but as the second hoop strikes the rough places it wavers and slackens its speed until at last it reaches a place which it cannot surmount, and falls. The first one goes down the hill and reaches its destination without any marked interruption as it passes over the rough places. So it is with man. He who is strongly constituted will not be disturbed by the things which arise to attract his attention and earnest thought for a little while, but some religious excitement, business worry or love affair comes into the life of the second; he is not equal to the emergency, his mind is overtaxed and actual insanity exists. These things are not the real causes of his insanity, as thought by the laity and many physicians, but simply the exciting cause, just as we often find latent talents in individuals existing without their knowledge until something occurs to develop them. True, this individual might have passed through life without manifesting insanity if this stress had not crossed his path.

These are the people in whom environment plays an important part. You would not think of advising a young man whom you knew to have a hereditary taint of insanity to enter a business which would call for a constant mental worry and nervous strain. You as physicians will often be called upon for medical treatment just as these individuals are on the verge of a "break-down." It is not medicine they need so much as a change of environment. It will usually take considerable argument to convince these individuals that a change is the best thing for them, for they usually feel that the trouble at hand, some business transaction for instance, must be carried out by them, and that no one else is capable of doing it. It is because they are under great nervous strain, that they reason as they do. If you can convince them to change their surroundings at this time they may be spared actual insanity for the time being, and if no great strain is brought to bear upon them again, may be for all time.

Alcoholism is, next to heredity, the second greatest cause. Statistics show that it produces from 15 to 20 per cent. of the insanity. The tissues are constantly fed on a toxic substance, which they must combat, and especially is the nervous system taxed to its utmost. There is a limit of endurance to all tissues, and when they are taxed beyond this they give up their efforts to perform their normal function.

Syphilis plays almost as important a part. All diseases of a serious systemic character, no doubt, weaken the general constitution to such an extent that it is a question if any one can pass through an attack of typhoid, for instance, and ever fully recover from the effects. The tissues are constantly bathed in blood laden with poison, hence there is lack of proper nourishment; the brain structure is not built up; the nervous system is weakened. If this change be sufficient, actual insanity exists. If not, the brain simply remains in a little weaker condition.

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*Read before the Iowa State Medical Society for Women.

We are very apt, as physicians, to think that our duty is completed when the patient reaches the stage of convalescence. The time which should be given our most careful attention. We are certainly more or less responsible if we do not explain to our patient and his friends the dangers which are before him if he begins to tax his system before it has had time for repair.

What is true of typhoid, is also true of other infectious diseases. More attention was probably drawn to this fact by the wide-spread epidemic of la grippe during 1889-1890, during which years we find many cases of insanity ascribed to this disease.

Even the diseases which we are ready to classify as the "ordinary diseases of childhood" and let pass without any further investigation, are frequently the beginning of the condition which exists in later life, and for which we are unable to acconnt.

We find many cases ascribed to local causes, such as ulcer of the intestines, prolapsus uteri, etc., but in these individuals heredity has certainly done its part. These conditions should be corrected but very seldom with the hope of producing any marked change in the mental condition, unless there be a great amount of worry over the fact that they exist, and you thus relieve the mind of a strain.

The age extending from fourteen to twenty-five, that of adolescence, is a time which is trying to the youth and his friends. Under these circumstances your aid is sought, especially at the age of puberty. New desires, new emotions, new passions are awakened in the system. The mental change is as great as the physical.

Very frequently the years of childhood have not been spent in preparation of the best kind, and the individual reaches this age in a poor physical and mental condition, consequently the strain is greater than he can endure.

The parent will tell you he is a "nervous" child, never sleeps well, has a poor appetite, and they have never allowed him to do much because he was not "strong." Such a child learns early to explain all his peculiarities, outbursts of temper, lack of self-control, etc., to the fact that he is "nervous," and uses this indefinite term to cover all his short-comings. His thoughts become self-centered. He is allowed to stay up at night because he says he "can't sleep," and thus robs himself of the greatest restorer possessed.

Children trained in this manner are usually the offspring of neurotic parents, and thus combined with poor heredity, is unfortunate training. It is your first duty to educate the parents to realize the danger that lies in store for their child; gain their confidence; make them realize that you have given the case earnest thought, and then begin your course of treatment. Build up a strong physical condition, a healthful mental one.

Some good vigorous exercise which keeps him out of doors and keeps the mind occupied at the same time. Many a youth could be saved years of suffering if he could be taught to have some definite purpose in life and work towards it. By this I do not mean that he should at this time of life be expected to shoulder the responsibilities of his elders, either in a business or social world, because the brain is not prepared for such, just as the small boy is not physically able to do the work of a man, but simply to strive for some laudable object in life, more to keep his thought on something besides self. This is especially true of the hysterical girl who is reminded by an overly-anxious mother every time she undertakes to do anything, that she is not strong and must not tax her strength. Thus is the thought of self-made to stand out foremost in everything she does. These are the people whom you find make rapid improvement by a change of surroundings.

Too frequently children at this age receive mental blows in the public school from which they never recover. They either strive or are pushed to accomplish as much as some other member of the class who is by far their superior, both mentally and physically. This is accompanied by more or less worry, the disappointment of failure and finally mental collapse.

Another point in which your advice will be sought, not so often probably by the individual as relatives or friends, will be in regard to the marriage of an individual who has been insane and has apparently recovered, also, as to the advisabiliiy of the marriage of a young man or woman whose parents, either father or mother, have manifested insanity. It may seem to be taking rather a radical view of the matter, but if the answer was given in the negative to all such questions, we undoubtedly would go a long way towards preventing insanity.

Primary and Secondary Osteoplastic Surgery in the Treatment of Complicated or Compound Fractures.*

By Eugene B. Glenn, M. D.

Modern advances in the sciences have demanded necessary much more circumspection and deliberation on the part of the surgeon, before he proceeds to sacrifice a limb or any part of it, by amputation, in dealing with various disorganizations of bone, produced by the effects of violent force. Many a limb has been sacrificed that should have been saved, and are being saved to-day, owing to our improved mechanical expedients with a widened knowledge of regenerative properties of bone tissues.

Where there has been considerable mutilation of the soft parts or articulations have been opened, or even where there has been extensive shattering of bone, all our energies are concentrated on saving the member, regardless of the degree of deformity or distortion. At present we very frequently succeed in restoring symmetry and the functions of the member by resorting to proper osteoplastic procedures.

We might mention first some of the essential conditions for success in primary osteoplastic procedures, after all serious fractures of the extremities. First, is the patient in the state of great physical shock? We are likely to underestimate the degree of collapse which follows serious crushes of the body, because frequently the senses are unclouded and the patient is sanguine of an early recovery, and, besides, entertains very few thoughts of death, until the surgeon intimates that the traumatism is extremely grave, and that he has no time to lose in adjusting his temporal affairs and preparing for death. The mental condition of the patient weighs for nothing in making a prognosis with this class.

Second, when the patient is greatly exhausted by loss of blood, which is frequent in all extensive mutilating injuries, the patient is blanched and cold, the pulse is thready and irregular, and the patient is thirsty, the eyes are sunken, and the muscles of the face twitch. Under these circumstances we should direct our energies towards reviving the patient before anything like a critical examination of injured parts is undertaken.

Third. In many mangling wounds of the limbs, in railroad accidents, or from machinery, the nervous system suffers greatly from the shock, and simultaneous visceral complications are not infrequent, and in these cases it is necessary to watch for some co-existing evidence of internal hemorrhage or serious injury of the various viscera. No tedious examination into the character of an injured limb should be done while there are any signs which point to a grave implication of a vital organ. Therefore, under the circumstances, our first attention should be directed to the patient. He should be made comfortable and composed. Artificial heat must be applied, and he should be stimulated freely. After full reaction has been established, then a thought is entertained for treatment of the limb.

The safest and most expedient time for a critical examination of parts will receive our next attention. Premature rough handling of the limbs before the effects of shock have passed away, has done a great deal of harm. The parts should be thoroughly cleansed, effective hæmostasis secured, and the limb placed in a comfortable position. When the sense of ease is experienced, the limb is in the proper position to relieve the pressure of the nerve trunks and any impediment of the free movement of the blood current. It is not advisable to force into full ether coma, the patient suffering from a badly mangled limb, and then make repeated movements of torsion and extension. But when the patient's general condition is good and the injury is of no great magnitude, more lengthy manipulation is permitted. But I believe it is bad practice to make the first examination very long, or beginning any operative procedures of a protracted character at this time.

Now, if we have done enough at the first dressing, by controlling the hemorrhage and dressing the limb and making a comfortable adjustment, how long should we wait? If there be no fresh exacerbation of pain, secondary hemorrhage, asphyxiation or gangrene in the limb, we may delay for forty-eight hours before removing the primary dressing. We can see what is possible to accomplish which we could not see at the primary dressing. We can determine better the vitality of the tissues, and make a better estimate of the future possibilities of the limbs.

As the processes of repair commence only on the subsidence of acute inflammatory engorgement, the prospect of effective bone formation by this course is enhanced, and, furthermore, the patient, now fully restored from the immediate depressing effects of violence, is better able to support further operative measures.

The secondary osteoplasty constitutes a large and growing field for progress in surgery. The judicious and skillful osteoplasty has been wonderful in the way of correcting deformities and improving and restoring the functions in damaged limbs.

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*Read before the Buncombe County Medical Society, May 18th, 1903.

Some of the conditions that lead up to the necessity of secondary osteoplasty, occur in many fractures of various conditions, under various circumstances, where no sort of fixed mechanical adjustment is possible. As, for example, when a fracture is multiple, there are internal injuries, or vascular channels are seriously damaged and asphyxia of the limb is pending.

Many times we have to solve the question, not "can we save the limb with a good prospect of recovery?" but, can we by any means preserve it in any shape? In my opinion, it is fallacious reasoning to think at first sight that if a bad fracture or fracture-dislocation was properly adjusted and treated immediately after injury, there would be no occasion for any sort of consecutive operations; and that the time for interference or precise action was while the tissues were disorganized, and that the sooner after the accident the better. It has been shown by investigation and experiment on fractures in the limbs of frogs that incomplete vascular stasis of the distal end of a limb is entirely compatible with its ulterior vitality, provided only that damage to the great trunk has not been too great.

There are no means by which vascular damage can be primarily determined, because it is often several days before the full vascular tide has begun to move. No sort of splint or restricting bandage should be adjusted until the circulation has been fully re-established. Then our rule must be not to paralyze or impede the already crippled circulation.

It therefore follows that in so much as accurate mechanical adjustment is not expedient, here faulty, defective, distorted limbs or non-union may follow. This, then, would constitute another class of compound fracture, in which it is obvious enough, in primary dressing, that osteoplasty is called for; but various local and constitutional circumstances, beyond our control, make it advisable, and many times imperative, that we delay until work of union is advanced or completed.

The fracture-dislocations, or complicated simple fractures are frequently followed by such serious deformities or loss of functions as to interfere with the future usefulness of the limb. As, for example, in the cases of Pott's or Colle's fracture, or fracture of the humerus, intracapsular fracture at the hip joint, and the fractures of the patella. The tendency of most fractured bones is to resume their normal position after replacement, provided that muscular tendency can be overcome; but in various situations, especially where joints are involved and the apophyses are broken off, complete replacement and support at the primary adjustment may be impossible, and require operative treatment.

The question has been asked, "Is it ever justifiable to convert a simple into a compound fracture for the purpose of diagnosis or treatment?" It has long been taught that it takes a compound fracture about twice as long a period of time to unite as a simple fracture, and it is considered more serious than in those breaks of bone in which skin remains whole.

Before Macewen demonstrated the simple and safe esteoplastic method of speedily correcting deformed bone shafts, surgeons were about as timid in cutting into healthy bone as they formerly had been in opening the peritoneal cavity. When considerable deformity was followed by a simple or compound fracture they were usually content to leave it undisturbed, or, if the deformity was considerable with the joint locked, they sacrificed the limb by amputation. But it should be remembered that an osteotomy after fracture should never be considred lightly. But in those cases where the conditions are such that inevitably result in marked deformity of the limb, or serious impediment in the functions, we should never hesitate to open freely down on the seat of osseous disorganization, and deal with the case as conditions require, provided that the most rigorous asepsis is enjoined.

Imperfect union has been the rule where the avenue of infection is maintained by drainage and the fragments kept in a vice-like grip of rigid, unyielding adjustments, and thereby producing an almost complete palsy of the vascular system. Indiscriminate drainage in open fractures is bad practice in an aseptic or recent wound.

In healthy tissue, incision through the over-lying tissues for the purpose of diagnosis in fractures is certainly not justifiable, except in fractures of the skull. In recent compound fractures not attended with extensive laceration or contusion of the soft parts and an absence of shattering bone, the over-lying tissues may be closed and allow union of the flesh to take place, and the bone tissues follow. Free incision for the purpose of treatment in many cases is permissible, but never for diagnosis only, except in skull fractures.

Secondary osteoplasty judiciously utilized has yielded remarkable success. It deals with bones after their union, when the nerves are caught or compressed, when the limbs are crooked and deformed, when a joint has been involved and its motion greatly impeded or entirely lost. It is an invaluable resource in faulty joints. Among the joints its greatest value is at the elbow. It has been utilixed with advantage after union and deformity in Pott's fractures. Great latitude is given secondary osteoplasty on bones of the extremities, with greatest advantage on the leg. The sooner after union this is done, and the younger the patient, the better.

In medico-legal cases in the future, when serious fractures are to be considered, or when the future working value of the limb is to be estimated, the question as to whether the full resources of osteoplasty have been exhausted must be answered before it will be possible to make any definite estimate as to the extent of permanent injury.

We have often seen angular deformity resulting in fracture of the femur, after union, with considerable shortening of the limb. It was not due so much to non-union which was at fault as imperfect or mal-union. In a few cases there may be ground for suspecting unskillful treatment, but in the majority of cases the fault may be with the patient and may probably have been fundamentally constitutional.

The Care of the Insane.*

By Charles G. Wagner, M. D., Superintendent of the Binghamton State Hospital, Binghamton, N. Y.

Insanity has always interested the world. Its history runs back through the ages to the earliest times, and it has played a conspicuous part in human affairs in every country since man first came upon the earth. Other affections or diseases cause the loss or disuse of one or more members of the body, but insanity involves the unfortunate sufferer's whole being and changes his relations with all external things. It robs him of self-control; it takes away his responsibility before the law and frequently renders him a pitiable, helpless wreck, wholly dependent upon others for all his wants. It is an ailment that comes alike to the weak and to the strong; to the rich and to the poor, and brings the shadow of appalling disaster into the home where before was happiness and contentment. For the great majority of insane persons unable to care for themselves under the stress of their awful affliction the State is called upon to provide hospitals. These State institutions are therefore of vital interest to the public and especially to the medical profession at large.

The Nineteenth Century saw wonderful advances in the care of the insane throughout the world, but the greatest strides were unquestionably made during the last quarter of that period. Scarcely more than a score of years ago our asylums were still prison like structures, gloomy without and more gloomy within. With few exceptions the wards were guiltless of ornamentation and the barred window, the locked door, the crib bed, the massive furniture fastened to the floor and a dozen or more inhuman devices for mechanical restraint made up a picture well calculated to strike terror into the heart of the newcomer and to fill with despair the unhappy victim of prolonged incarceration.

Those of us who were familiar with the old airing courts—small enclosures with high board fences, commonly called by both patients and attendants the "bull yard", —in which the insane were usually herded when out of doors for air and exercise, can never forget their demoralizing influence. Attempts at suicide were common, indeed the whole atmosphere of asylum life was so depressing that even death was looked upon by many sufferers as a welcome change. When a new order of things looking toward the removal of bars from the windows, the destruction of the crib bed and the airing court, the abandonment of mechanical restraint and larger liberty for the individual patient was inaugurated, the innovation was met with prejudice under the guide of conservatism, so strong as to imperil its success. Medical men who had grown grey in asylum work wrote and spoke against the new school as the immature efforts of tyros to teach their elders, and predictions were freely made that failure and calamity would inevitably result wherever the newer methods prevailed. That these false prophets were wrong is a matter of history. The new principles gained wider and wider adherence. The gospel of non-restraint was preached in season and out until everywhere it became the accepted belief and practice among progressive hospital men. Our State hospitals are to-day the product of a process of evolution. Old prejudices have not been laid aside in a day, but gradually they have given way to better methods in both the medical and the administrative departments. Each institution instead of presenting the appearance of a prison is now more like a thriving town of from 1000 to 3000 people where the majority of the residents are everywhere busy and contented. Industry is the watchword, and on all sides may be seen groups of men and women actively engaged in some congenial occupation. In the proper season planting the gardens and farm, or harvesting the grain, spading the flower beds, mowing the lawns, repairing the roadways or assisting in the erection of new buildings, are occupations often more beneficial to certain classes of the insane than any strictly medicinal treatment that has thus far been devised. Special shops are provided where a small army of patients find employment making a great variety of useful articles among which are brushes of almost every imaginable kind, ornamental floor mats, cane seats for chairs, boots, shoes and clothing for all the institution. In the greenhouse patients assist in bedding the plants and arranging them on the benches; in the electric lighting station, the engine room and the carpenter's shop patients are busy assisting the mechanics; in the kitchens they work with the cooks, and in the barns they help to care for the horses and cattle, everywhere cheerful and busy.

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*Read before the New York State Medical Society, at its annual meeting, at Albany, N. Y., January 27th, 1903.

If the visitor enters the hospital and passes through the wards he is impressed by a general air of comfort. He notes the pictures and mural decorations, comfortable chairs and settees, rugs and carpets, pianos and books, and he learns, usually to his surprise, that all of these refining influences help to convert the turbulent, profane, abusive man or woman into the quiet, orderly, self-helpful patient seen moving at will about the hospital premises throughout the day. He learns perhaps for the first time that the insane man differs but little from his sane brother, and that he needs but the treatment due to a fellow human being to lead him speedily in the way of conducting himself like one.

The largest possible individual liberty consistent with safety is allowed, and thus many patients not strong enough to engage in systematic work, or disinclined to employ themselves in this manner, find health giving exercise in roaming the country-side gathering flowers and berries by the way in summer, and hickorynuts, chestnuts and butternuts in the autumn. The question may be asked, do not the patients to whom so much liberty is accorded run away from the hospital? On the contrary those to whom this privilege is granted are the most contented people in the household. Remove the bars from the windows and the locks from the doors and you at once take away to a great degree the temptation to escape. It is the patient shut in on the locked ward that continually looks for an opportunity to run away. He who has the opportunity constantly before him rarely takes advantage of it. For a large part of the population of a State hospital, occupation is the key note of care and treatment after the acute stage of mental disturbance is past. When once the sufferer can be made to believe that he is still capable of doing some useful work in the world the germ of hope is implanted where before there was only despair.

But for the new cases suffering from acute attacks of melancholia or mania—and these constitute nearly all of the curable cases that come to the hospital for treatment—a different method of treatment is necessary. Such cases are examined on their arrival with the utmost care. The causes that lead to mental breakdown are minutely noted. A physician accompanies the sufferer to the reception ward where, after a thorough physical examination of the heart, lungs, and other organs, he is given a warm bath, placed in bed and a bowl of hot milk or gruel administered. If there be much excitement or restlessness a mild sedative is added. The special treatment then depends upon the form of the malady, but in nearly all cases instructions are given to the nurse for the administration of hot milk or beef tea at short intervals, and to record on a chart provided for the purpose the pulse, respiration and temperature, and on other sheets the detailed symptomatology and treatment.

If the patient will accept it, solid food, such as eggs, chicken, mutton or beef is added to the diet, and every effort is made to build up his strength and at the same time quiet and soothe any tendency to excitement. Every possible effort is made to persuade the sick person in the gentlest and most tactful manner to accept food voluntarily rather than by forced feeding, and often a reluctant patient who at first refuses food will eat heartily when properly approached by a skillful nurse. If there be a strong tendency to both mental and motor activity, we think it best that the patient be kept in bed for a few days and one or more nurses remain constantly with him to kindly but firmly keep him in a recumbent position. Such patients may often be given with great benefit ten or twelve eggs daily, especially in cases of melancholia. Besides the eggs, large quantities of milk may be administered. The milk should be hot, and if not well borne it should be diluted with lime water, or, if not rich enough, cream should be added as the individual requirements may indicate.

Sometimes the sufferer from melancholia refuses to swallow any food whatever, and then we must resort to the stomach tube to supply him with liquid nourishment in the most nutritious form obtainable.

If a patient is extremely restless, constantly agitated or inclined to violence and does not sleep under the influence of mild hypnotics, we find the warm bath 98 to 104 deg. F. an exceedingly valuable sedative. Baths, both hot and cold, the needle bath, shower and electric bath, the galvanic and faradic currents and massage are all valued adjuncts frequently brought into requisition.

Occasionally we have patients who do not yield to mild sedatives, or even such hypnotics as the bromides, chloral, sulphonal, hyoscine, etc. Formerly such patients were confined in cells, put in straight jackets, muffs, belts and wristlets or mittens, and otherwise harshly treated, but now all such devices are regarded as barbarous, and instead we employ trained nurses, educated for the special duties they have to perform. These nurses, through the exercise of kind and gentle discipline and ever watchful care, have happily demonstrated that the modern humane methods are infinitely superior to the old way where force was the dominating factor of asylum treatment.

The treatment of the insane to-day briefly summed up may be said to be the provision of pleasant and sanitary surroundings, good nursing, proper medical attendance, suitable diet, entertainment and congenial occupation.

I have gone somewhat into detail on this subject, although not exhaustively, for the reason that I wish to emphasize the fact that State hospitals are not merely places for the detention of insane persons, but are rather *hospitals* where the best possible care and treatment that can be devised should be provided for them. We hear the criticism that psychiatry is not keeping pace with general medical science. If we are lagging behind in this respect the cause is not difficult to find. Our State hospitals are in good physical condition; the food supplies are, in the main, sufficient and wholesome, and the medical work, I think I may affirm, was never done better than at the present time. Much has been done, but the crying need of the hour is special hospital buildings for the care and treatment of the acute insane. Go to any of our large cities and visit the general hospitals for the sick and maimed. Observe how millions are lavished on these institutions to enable the medical staffs to do their work successfully, and then visit our State hospitals and note how limited are the best of them in facilities for scientific work. Thus far but little has been done in the way of building construction other than the provision of wards for mere custodial care. There is not a State hospital in this great State adequately provided with facilities for the care and treatment of cases of acute insanity. In every institution we possess the acute recoverable cases are crowded in on wards with chronic cases or assembled in close proximity with one another to their great detriment, and it is an undeniable fact that many of these patients who ought to get well and resume their places as producers among their fellows, fail to recover simply because suitable care and surroundings cannot be given them. The importance of this question of suitable hospital wards for recoverable cases cannot be overstated, for, besides the incalculable boon that restored health is to the patient and his family. the loss to the State when such cases become incurable and a permanent tax upon its charity is simply enormous. The average cost of maintenance of an insane person is not far from $200 per annum, and the duration of life from 12 to 15 years; hence, if the lack of proper accommodations and care permits these curable cases to lapse into the hopeless degradation of chronic insanity the burden upon the public is heavy; indeed, it reaches far beyond the individual sufferer, for it not infrequently happens that when the family is deprived of a father's support the wife and children drift into the poorhouse to be maintained at public charge. It will, therefore, readily be appreciated that the construction of a building where each individual patient sent to a State hospital suffering from an attack of acute insanity shall be given the greatest possible chance for recovery must prove a paying investment to the State. Such a building should consist of small wards, each for ten or twelve patients, with separate individual rooms, well warmed, lighted and ventilated. The wards should be comfortalby furnished and equipped with the best modern santary appliances including facilities for medicated baths of all kinds, electric treatment and massage; an operating room with the necessary outfit for aseptic surgery and glass enclosed verandas where the benefit of sunshine and fresh air might be fully available. A "special diet" kitchen should supply an abundance of nutritious food, and a well ordered dining service should bring it the patient hot and in palatable form. The best trained nurses in the hospital should be assigned to these wards and all the resources of the institution should be taxed to re-establish the physical and mental health of the patient. With such facilities as I have outlined, and some special construction for the complete separation of those affected with tuberculosis from the other hospital inmates, I believe our State hospitals would show better results in the way of recoveries than have ever been attained in institutions for the insane.

Some Clinical Indications for the Use of the Electric Light Bath.*

By T. D. Crothers, M. D., Superintendent Walnut Lodge Hospital, Hartford, Conn.

The use of the electric-light bath as a sudorific and tonic or remedy for the restoration of deranged metabolism is practically new in therapeutics. A number of experimental studies have been made in this direction with most encouraging results. The sudorific action of electric light is prominent and evidently superior to the hot air bath in rapidity of action and duration of effect.

How far the electric-light bath promotes healthy metabolism, destroys bacteria, and adds new force or vigor to the functional activities of the body is yet to be determined. Hot-air baths in nearly all forms of neuro-psychoses have proved so valuable that farther researches, with improved means and methods, give promise of most practical results.

The patients who come under my care suffer from toxic insanities due to spirits and drug taking. They also suffer from sclerotic conditions of the heart, liver, kidney, and blood vessels, particularly of the finer arterioles. Associated with these pathological changes are various degrees of vasso-motor paralysis, organic cell changes with disturbances and palsies of co-ordination. Anæmia, hyperanæmia of the nervous system, and the unknown conditions described by the terms neurasthenia and cerebrasthenia are always more or less prominent. As a remedy for these conditions, I have used the electric-light bath for over a year, giving from thirty to fifty baths a week, exclusively to spirits and drug-takers in all conditions and degrees of addiction.

The bath consists of a room five feet square and six feet high, lined with tin, on which are arranged ninety incandescent lights of sixteen candle power. The patient taking a bath sits on a chair in the center of this room with the entire body exposed to the light, the head being covered with a napkin.

It was found from experience that the action of the electric light dried out the oil in the hair leaving it dry and husky, hence it was thought that the intense action of light would impair the growth of the hair and otherwise injure the scalp. These effects were not noticed on the hair of other parts of the body. At the beginning of the bath the temperature of the room would be about 70 deg. F., and in the course of ten or fifteen minutes it would rise to 125 or 130 deg., and during the one or two hours in which the baths were given it would fluctuate between 120 and 150 deg. The opening of the door for the exit and entrance of a new patient would vary the temperature from ten to fifteen degrees. Perspiration began after entrance to this room in from five to eight minutes, and became very profuse in from ten to fifteen minutes, the patient rarely remaining over fifteen minutes.

In most cases the duration of treatment was but ten minutes, sometimes less. Many persons perspired excessively in five or six minutes. This depended in some measure on the state of the skin. As all patients of this class have general anæsthesia of the cutaneous nerves and diminished circulation of the superficial vessels, diaphoresis is always lessened and impaired. In some instances profuse perspiration would appear in a few minutes, in others it would be slow. For the purpose of aiding this action, quantities of water were drank before entering the bath. The first inquiry was the effect on the temperature of the body. Where the temperature was above the average, due to some toxins or some subacute inflammatory condition, there was a sharp fall of from one to two degrees, and in some instances this occurred during ten or fifteen minutes. This reduced temperature usually continued for hours or days after, and in some instancee did not rise again. In other cases where the temperature was subnormal, due to unknown conditions, there was a slight rise of a degree or more.

In both these classes it was supposed that the fluctuation in the temperature was due to the removal of the toxæmias. In other examples the temperature did not vary much, and quickly dropped back to the condition which existed at the beginning of the bath. In the so-called tobacco heart, a condition noted by much functional disturbance, of which tachycardia and arrithemia are the most common phases, the effects were noticeable in diminishing the irregularity, giving tone and strength to the pulse. In most cases the heart's action increased from ten to fifteen beats, and the regularity and force of the beat was improved, and this increased action continued for hours afterward. Where organic disease of the walls or valves existed, a marked improvement followed, particularly in the regularity and steadiness of the beat.

The respiration remained about the same, in some instances rising, in others falling. In all, it improved in steadiness, massage with hot or cold showers were given, and the patient always retired to bed, the baths always being given early in the evening.

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* Read at meeting of Electro-Therapeutic Society at Catskills, N. Y., Sept. 1902.

This would supplement and increase the good effects of the light or neutralize any possible bad effects from it.

It is evident that two distinct effects were produced from the action of electric light in this form. First, the physiological effect. The rapid, sudoriferous action of electric light on the skin produced intense and rapid elimination, draining off the water from the blood and tissues and with it the toxins, salts, and excrementitious matters. This in itself is a most valuable means for relieving the disordered conditions commonly present. It was found that after this sudorific effect, followed by massage and showers, a decided soporific tendency was induced. Degrees of nervous insomnia were overcome, and persons who could not sleep well before the bath, had profound slumber after it. Drug-takers, who were constantly looking for the analgesic effects of drugs, found in the bath the relief they sought. In some instances this was very marked, and lasted for one or two nights. In others it was of short duration. In all instances this was a marked result. The particular disorders which seemed most influenced by the bath were neuritis, gastritis, myalgia, and extreme nervous irritation.

Arterio-sclerosis (a very common disease in spirit and drug-takers) is materially changed by the light bath, as seen in the improvement of the heart's action and lowering of the arterial tension. After each bath the circulation becomes steadier, and the tracings by the sphygmograph more uniform. The general sclerotic condition was changed. In one instance the patient lost flesh and gained in muscular vigor. He became intensely alarmed at his condition and used the light bath every day for three months with marked relief.

Sclerosis of the liver and kidneys have greatly diminished in several cases and the acute symptoms subsided through the use of the bath. In hypertrophic liver the size of the organ is perceptibly decreased after the first bath. Albumin and casts from the kidneys grow less and finally disappear after a few baths.

All these and other conditions show marked improvements from the time of the first bath. This was so prominent in some instances that all drug medication was withheld and the baths were the exclusive remedy used for the time. It was evident that the electric light was the most prominent agent in producing these results, supplemented by the massage and showers. This was proved in instances where the electric bath was not used, but only massage and showers, in the different results which followed. It was also evident in persons who took hot-air baths daily, with massage and showers. A comparison of results, including the rapidity of restoration, showed that those who took the electric light bath made a more rapid recovery, slept better, and the nutrition improved with greater rapidity.

Second, the psychological effect was especially marked. The first impression of an electric light bath is always pleasant, because associated with a feeling of credulity as to the effects. The impressiveness of the room and the absence of any unpleasant physical conditions, such as the glare of light on the eyes, or the discomfort of breathing, with the feeling of awe and wonderment aided by the suggestions of the operator, have a very powerful influence on the mind and body. After the first bath this confidence is deepened, and the mental suggestion of restoration from this means becomes a dominant idea, which in addition to the physical agents used, is a most powerful tonic and restorative.

A certain hypnotic impression grows with each bath and is largely supplemented by the actual physiological action of light on the organism. As a result, mental disturbances of all degrees, including illusions, delusions, and hallucinations grow less and less, and finally disappear. It is evident that its use in manias and melancholias might be very beneficial, also that in marked organic diseases it will be of great value in staying the progress of the disease.

In many cases an intense mental disgust for spirits follows the bath. This grows with the vigor of the person. The exhaustion not unfrequently noted after a hot-air bath never follows the electric bath. This is, no doubt, due to both mental and physical influences.

These are only a few of the many indications which are traceable to the use of light. I am encouraged to believe that with new methods of application and a wider and more accurate study, its value as a therapeutic agent will come into great prominence.

Every doctor is interested in the Suprarenal Substance. It is the most valuable of all the articles added to the materia medica during recent years. Suprarenalin Solution supplies the active-constituent of the suprarenal capsule in a uniform permanent and non-ittitating medium. The Suprarenalin Solution takes the place of all of the preparations of the suprarenal glands, as it may by employed locally or internally. Suprarenalin Solution is made by Armour & Company, and is furnished to the trade in one ounce glass stoppered amber bottles.

Charlotte Medical Journal
EDWARD C. REGISTER, M. D., Editor.
No. 36 South Tryon Street, - - - - - - - - - - - - - - - Charlotte, N. C.

REST IN THE TREATMENT OF DISEASE.

In the therapeutic management of every case of whatever pathological condition, the employment of natural and physiological measures becomes always of the first importance, and should in every event receive the most careful and practical consideration and application by the physician or surgeon in attendance.

One of the most important, if not the first in importance, in nearly all conditions of disease is rest; and as nearly complete rest as it is possible to secure.

No physician does his whole duty, who does not consider and endeavor to have his patient obtain that relaxed condition which will give entire freedom of muscular and mental strain; and, too, that rest should be in a form to secure the full benefit of the measure, as well as in a manner and under conditions which will do the patient no harm.

All inflammatory conditions will make decidedly more rapid and sure progress toward recovery if the patient is at once put to bed. The horizontal position aiding nature to repair and re-establish the normal condition. Whereas, if an effort is made to treat an individual while he pursues his usual avocation, there will positively be a corresponding failure of obtaining full success from the treatment.

In valvular lesions of the heart, during the acute stage, rest in a comfortable bed is most important, in fact, an absolute essential consideration in the treatment of the disease.

Editorially, "The Therapeutic Gazette" for June, 1903, says: "Were we given the choice of treating all cases of ruptured compensation by drugs or by rest in bed, we would undoubtedly choose the latter therapeutic measure." Quite too frequently when an individual consults us at our office, with some lesion of the heart, we at once think of digetallis and strychnia and depend upon that to accomplish the whole work.

In typhoid fever is it so well known that an essential point in the management of the case is that perfect rest be enjoined from the very beginning. Often the serious effect of muscular effort which has been unfortunately so frequently and forcibly seen in ordinary cases where the course of complete rest was not carried out. Especially has this been observed in those cases of so-called walking-typhoid, which has made the progress of those cases so uncertain.

In the same way, in gastric disturbance of any kind, a more rapid and kindlier progress toward recovery is secured, when the individual is not only aided by muscular rest, but also by the minimum amount of effort or entire relief of such labor necessary by the alimentary canal and its digestive function.

In acute inflammatory articular rheumatism how emphatically nature cries out and protests against any effort being attempted with the inflamed or affected muscles and articulations. The patient is forced by the very nature of the condition to maintain complete rest and relaxation; therefore, how definite the lesson that all rheumatic attacks, it matters not how mild, should be given the same kindly consideration and application of this physiological assistance.

The rest that is urged is such that would promise, and in fact, prove to be as applicable as a therapeutic means as any measure which might be applied in a pathological condition at any time and under any specific circumstances.

When proper rest is indicated the attending physician should by tact secure the observance of that as well as any other therapeutic measure. It will, in many cases of mild type or the developing stage of disease, be difficult to secure compliance with the injunction of taking rest; many individuals being entirely willing to take drugs, but not rest. Just as important, however, is it for the physician in his management of cases, where he needs and obtains the advantage of rest on the part of a patient, that he should be as emphatic, when the full value of the measure is secured, to see and direct a return to exercise and employment suitable to the conditions of the individual.

A NEW MEDICAL ASSOCIATION.

On Sept. 8, 1903, a goodly number of representative physicians of Cumberland Valley, embracing the region lying between the Potomac and Susquehanna rivers, met at Mont Alto Park, Pa., and carried out a profitable and interesting programme. A banquet was partaken of at 12 o'clock, at the end of which a society was organized to be known as The Cumberland Valley Medical Association, with the following object: "The physicians of Cumberland Valley do hereby associate themselves together for the purpose of scientific progress and social advancement into the Cumberland Valley Medical Association."

The following officers were elected for the first year: President, Dr. R. W. Ramsey, Chambersburg, Pa.; Vice-Presidents, Drs. James Evelyn Pilcher, Carlisle, Pa.; P. Brough Montgomery, Chambersburg, Pa.; J. W. Humrichouse, Hagerstown, Md. Secretary, Dr. John J. Coffman, Scotland, Pa. Treasurer, Dr. John Montgomery, Chambersburg, Pa.

The next meeting is to be held at Pen Mar, the summer resort on the Blue Mountains.

THE STATE AND SANITORIA FOR THE CONSUMPTIVE POOR.

One of the principal duties of a State is to provide or create conditions which will afford the best opportunity for the physical well-being of her inhabitants.

It is fully recognized that all citizens should be guarded against the dangers of contagious and infectious diseases by whatever measures promise the fullest and most complete results in accomplishing such an end.

Within quite recent years, tuberculosis has been recognized and admitted by authorities and investigators, not as it had been held in the past, confined only to an inherited tendency, but one of the diseases which is transmitted by contagion and infection as well. With such facts definitely known, it becomes the sanitary duty of the State to throw every safeguard around her subjects. To endeavor to aid and protect, not only those who might be infected, but also those already invaded by this "white plague," which causes one-seventh of all deaths.

It is known and is now an every day occurrence, affording proof of the curability of consumption. Carswell reported in 1838, quoted by A. A. More, M. D., (Charlotte Medical Journal, June, 1903, page 399) as follows: "Pathological anatomy has perhaps never given more proofs of the curability of a disease than it has given for pulmonary consumption." Jaccoud even maintains that pulmonary phthisis is curable in all its stages. Herard and Cornil (Knopf "Prophylaxis and treatment of Tuberculosis") are of the same opinion. Bouchard, of Paris, said: "This disease, which has such a strong hold on humanity, is curable in the largest number of cases."

With tuberculosis as a disease which threatens every person alike, it becomes the duty of every State to effect such measures that will be a protection to the masses.

With the present results, in the care of individuals infected with this disease in sanitoria, there is proof sufficient to make the movement in establishing such locations or colonies entirely proper. There are various sanitoria where persons with much or even moderate means may have the advantage of this form of treatment.

But the provisions for the worthy poor are almost wanting, and this is the very class of people that, when thus affected, need this form of treatment more than any. There is, in most States, no opportunity or means whatever for the poor getting away from their unhygienic environments. For this class the State needs to make provissions; in the first place that even the poorest individual may have the benefit and the comfort of such aid; and, second, that he or she may be removed from the midst of innocent unprotected persons who might otherwise be infected as the result of the presence of such diseased individual. Knopf in his work on "Prophylaxis and treatment of Pulmonary Tuberculosis," in chapter 25, "Special Institutions for the Consumptive Poor," says: "To my mind, the multiple creation of such institutions will solve more than anything else the difficult problem of how to reduce the mortality from tuberculosis and prevent its spread in general." Out-of-door air and rigid compliance with a routine course of exercise, diet and personal hygiene are the prerequisites for the success of this treatment. Only in properly instituted sanitoria can the full measure of such course or treatment be conferred, or by the individual received. Osler, in his "Practice of Medicine," page 333, says: "Perhaps the most important advance in the treatment of tuberculosis has been in the establishment in favorable localities of institutions in which patients are made to live according to strict rules." At such a developed and well-conducted sanitorium the individual is not only given an opportunity to be healed but the germs of the disease that he constantly throws off from his bronchi are cared for and destroyed before they have an opportunity to be developed and pass into that form to be received by another person. As Osler says: "It has been fully shown that the expired air of consumptives is not infective. The virus is only contained in the sputum, which, when dry, is widely disseminated in the form of dust, and constitutes the great medium for the transmission of the disease."

Delancy Rochester, M. D., Buffalo, N. Y., "The Role of Local Sanitoriums in Preventing the Spread of Tuberculosis," American Medicine, Oct. 10, 1903, says: * * "it follows that if a patient is sent to a sanitorium and is cured while in the sanitorium during the existence of the disease, he is no longer a focus for spreading the disease, and of course, after cure, he remains in the same harmless condition, so that such patients from the time of their admission to the sanitorium ceases to be sources for the spread of the disease."

From the standpoint of humanity toward

the sufferer, and as a preventive sanitary precaution or movement in State Medicine, it is the duty of the State to establish necessary sanitoria in such regions of the State suitable, and where needed, for the worthy poor.

Here the orphan children of parents, victims of tuberculosis, may be taken and cared for until robust and schooled in the best course of living and caring for their own health. In such sanitoria proper arrangements may be provided for the expectant mother impregnated by an infected father, or herself affected by the disease, that the child may be endowed with as vigorous health as possible by the regulated diet, exercises and rest for the mother during a season before and after its birth.

Let every medical man who is in favorable influence with members of State legislatures, explain and urge the importance of the provision and help to solve the problem of ridding the human family of this "Captain of the Men of Death."

A FEW REMARKS ABOUT TYPHOID FEVER.

In dealing with severe cases of typhoid fever possibly one of the most important functions in the body to be looked after is that of the kidneys. They should eliminate many impurities from the system, the toxine of the disease itself, and the toxines of other organs and the waste products of the fever. The exact activity of this organ is seldom noted by the nurse, and not always carefully watched by the physician. This is a mistake, and a serious oversight on the part of the medical attendant. He ought to carefully make tests for evidences of nephritis and to determine the amount of urea excreted, which is a very essential action to be noted in this disease. If he finds symptoms that indicate that the action of the kidneys is impaired, pure water ought to be given the patient freely and in small quantities, with this, in some cases, might be added mild refrigerant diuretics.

As regards the cold bath, the writer deprecates the methods usually adopted, even by the leading members of the profession. Applications of cold to purely reduce fever are seldom resorted to in his practice. He believes that as long as we produce reaction —oxidation, elimination and equalization of the circulation by the use of cold water, it makes little difference how it is used, or what the temperature of the patient may be.

Another error which we often make when treating this disease is the indiscriminate and continued use of strychnine as a stimulant. We lose sight of the fact that it acts in a way like an alcoholic stimulant; both might be properly classed as an irritant stimulant that should be resorted to only in a crisis when the physician anticipates the necessity of giving only a few doses. Its continued employment seldom, if ever, accomplishes much good. I am convinced that those who rely to a great extent upon strychnine as a circulatory stimulant in continued fever are apt to do harm.

It might not be amiss for me to add a word in regard to the treatment of intestinal hemorrhage. Of course the remedies recommended in this condition are numerous, but many of them are worthless, or their merits very questionable. It is seldom that any benefit from any of them can be noticed. Among the most common error that we meet with in the treatment of this complication is the application of icebags to the abdomen. This does not do a particle of good. Rarely a styptic can get to the bleeding spots quick enough to effect a good result, and nature possibly stops the bleeding caused by typhoid fever in nine cases out of ten. It might be possible that if we could anticipate this complication we could favorably modify it by giving large doses of opium, nitrate of silver and bismuth, or opium, sugar of lead, but remedies not here named are seldom of enough value for one to be able to recognize their beneficial action.

BUTTERMILK AS A FOOD.

Buttermilk is not only one of the best foods that we have in ordinary health, but one of the best foods that we have in many diseases. It is not an inferior remedial agent in many gouty subjects. The lactic acid, the sour of the buttermilk, dissolves many of the earthy deposits in the blood vessels and keeps the veins and arteries running free so there can be no clogging up of them, and deposits or irregular calcarious matter thrown around the joints, or the existence of poisonous waste in the muscles. It is a stiffening or narrowing of the blood vessels which brings on senile decay. In people predisposed to gout this food is likely to postpone its appearance for ten or twenty years if freely drunk. It may be taken in quantities ranging from one to two quarts per day. Gouty difficulties arise from sluggish excretion. This diet corrects this inaction. Acting as it does, it is a blessing to this class of subjects. It greatly stimulates the excretories, the liver, the skin and the kidneys. It tones up the system and furnishes it material from which to make rich, healthy blood. One who has creaky joints or swollen and acheing limbs should drink all of the buttermilk he can relish whenever and wherever he can, provided it is fresh and wholesome. It has been the writer's habit to give buttermilk in preference to any other food in all continued fevers, especially typhoid. It is the best food in the majority of all typhoid fever cases. It retains its natural taste longer than any other one thing. It causes less flatulency, produces less evidences of indigestion, never causes diarrhea, and is always relished by the patient.

THE HYGEIA HOSPITAL, RICHMOND, VA.

This is the name of a new hospital which was opened October the first by Dr. J. Allison Hodges, of that city. It is located at 101 West Grace Street. It will be a private Sanitorium for medical cases only, and will be thoroughly equipped. The most modern and scientific methods of treatment, including all the improved methods known to physiologic therapeutics, will be available.

Dr. Hodges is a native of North Carolina. He is one of the most energetic and skilled physicians in the South. This with his agreeable personality will insure success for his new enterprise.

PRECAUTION IN THE USE OF STRYCHNIA

One of the prominent and important items of Materia Medica that comes in for consideration and use by the practitioner of medicine is that of nux strychnos, or the various forms of its alkaloid, strychnia. And of all the articles of the physicians' armamentarium there is none that is so important in the care of its use than this drug; especially is this important in serious conditions and in cases where the drug is to be used continuously for an indefinite length of time.

In any drug where the dosage is of such a minute quantity, the power either for good or evil, is always a very important matter to have ever in mind; and the prescriber should be thoroughly intelligent upon the various effects which may result under the many peculiar conditions in which it may be used. The form of the pathological condition for which it is being used, the condition of the individual respecting the functions of the different organs of the system, especially their action and condition at the time, together with the external environments; all must be considered in order to have the serviceable result in the use of the drug. Besides the idiosyncrasies of the individual may cause different effect even under the same dosage at different times.

In the use of strychnia there is such a pronounced and decided effect of whatever nature the force of its action produces; that it becomes a drug that should be prescribed only with the utmost precaution as to its prospective effect in the given case. Unless its employment is carefully studied there may be serious conditions as the result from its use instead of benefit, as desired. The only plan remains for the drug to be used feelingly, and its effect on the individual carefully watched, and the dose either increased or decreased as the results indicate.

Rolland G. Curtin, Philadelphia, (Transactions of American Climatological Society 1902), after extensive studies of the use of strychnia, writes quite fully as to the danger of over dosage of this otherwise useful drug.

FORTY-TWO COMPONENT COUNTY MEDICAL SOCIETIES ORGANIZED IN NORTH CAROLINA. THE NEW PLAN AN ASSURED SUCCESS

The readers of THE CHARLOTTE MEDICAL JOURNAL are thoroughly advised of the new Constitution and By-Laws adopted by the State Medical Society at the Hot Springs session last June, and will doubtless be interested to know the new plan is meeting with marked success. Up to the last week of October forty-two county societies had been organized, and the work is still being pushed vigorously by the officers of the State Society and the Council. The profession everywhere seems to be taking kindly to the idea of the State Society with its prestige and its influence being brought to his door, and he asked in becoming a member of his local home county society to be also a member of the State Society without further action on his part, save the annual payment of the dues of $2.00 per capita to the State organization through the secretary of the county society.

The revised Constitution was wisely conceived and in its fruition will, with the county medical societies actively and regularly at work, greatly redound to the upbuilding of the local profession throughout the State, in elevating the standard of personal professional fitness and competency, for there is nothing so stimulating to better effort in our every day work as the contact with our fellow physicians.

We congratulate the officers of our State Society and its efficient Council on the auspicious beginning of their great work, and would especially urge upon every officer and member of each county society the duty of attending regularly the meetings, and also seeing that each legal practitioner of medicine is enrolled a member of his local county society. We are advised that in the county societies organized so far, the great majority of the legal doctors have been enrolled members—more than ninety per cent., in fact. This augurs well for the success of the North Carolina County Medical Societies, and again we congratulate the profession on the substantial advance it is making in this important move.

The following are the County Medical Societies organized as Component Societies of the Medical Society of the State of North Carolina under the new Constitution :

Buncombe County Society.—President, Dr. John Hey William, Asheville; Secretary, Dr. Gaillard S. Tennent, Asheville.

Haywood County Society — President, Dr. J. F. Abel, Waynesville; Secretary, Dr. J. Howell Way, Waynesville.

McDowell County Society—President, Dr. B. A. Cheek, Marion; Secretary, Dr. G. S. Kirby, Marion.

Madison County Society—President, Dr. J. H. Baird, Mars Hill; Secretary, Dr. W. J. Weaver, Marshall.

Brunswick County Society—President, Dr. E. G. Goodman, Elpaso; Secretary, Dr. J. A. Dosher, Southport.

Robeson County Society—President, Dr. J. D. McMillan, Lumberton; Secretary, Dr. L. R. Kirkpatrick, Maxton.

Wautaga-Mitchell County Society—President, Dr. J. W. Jones, Boone; Secretary, Dr. McD. Little, Horton.

Iredell-Alexander County Society—President, Dr. S. W. Stevenson, Mooresville; Secretary, Dr. J. E. McLaughlin, Statesville.

Catawba County Society—President, Dr. J. R. Campbell, Newton; Secretary, Dr. George H. West, Newton.

Caldwell County Society—President, Dr. A. A. Kent, Lenoir; Secretary, Dr. W. P. Ivey, Lenoir.

Cumberland County Society—President, Dr. T. D. Haigh, Fayetteville; Secretary, Dr. John D. McRae, Fayetteville.

Cleveland County Society—President, Dr. T. E. McBrayer, Shelby; Secretary, Dr. S. S. Royster, Mooresboro.

Moore County Society—President, Dr. W. A. Monroe, Sanford; Secretary, Dr. Gilbert McLeod, Carthage.

Caswell County Society—President, Dr. H. H. Dodson, Milton; Secretary, Dr. S. A. Malloy, Yanceyville.

Person County Society—President, Dr. C. G. Nichols, Roxboro; Secretary, Dr. J. A. Wise, Roxboro.

Durhâm County Society—President, Dr. A. G. Carr, Durham; Secretary, Dr. G. H. Ross, East Durham.

Granville County Society — President, Dr. S. D. Booth, Oxford; Secretary, Dr. G. T. Sikes, Grissom.

Alamance County Society—President, Dr. George W. Long, Graham; Secretary, Dr. W. R. Goley, Graham.

Orange County Society—President, Dr. J. H. Manning, Chapel Hill; Secretary, Dr. C. D. Jones, Hillsboro.

Gaston County Society—President Dr. R. M. Reid, Gastonia; Secretary, Dr. L. U. Glenn, McAdensville.

Mecklenburg County Society—President, Dr. Henry Q. Alexander, Davenport; Secretary, Dr. Parks M. King, Charlotte.

Harnett County Society—President, Dr. W. M. Harper, Dunn; Secretary, Dr. O. L. Dunning, Dunn.

Burke County Society—President, Dr. George H. Moran, Morganton; Secretary, Dr. I. M. Taylor, Morganton.

Davie County Society—President, Dr. M. D. Kimbrough, Mocksville; Secretary, Dr. W. C. Martin, Mocksville.

Wilson County Society—President, Dr. C. E. Moore, Wilson; Secretary, Dr. J. W. Lamm, Lucama.

Henderson-Polk County Society—President, Dr. J. G. Waldrop, Hendersonville; Secretary, Dr. A. B. Drafts, Hendersonville.

Transylvania County Society—President Dr. W. M. Lyda, Penrose; Secretary, Dr. Ed. S. English, Brevard.

Greene County Society—President, Dr. Albert West, Speight's Bridge; Secretary, Dr. G. C. Edwards, Hookerton.

Lincoln County Society—President, Dr. L. A. Crowell, Lincolnton; Secretary, Dr. J. S. Wise, Lincolnton.

Rutherford County Society—President, Dr. T. B. Twitty, Rutherfordton; Secretary, Dr. E. B. Harris, Rutherfordton.

Cabarrus County Society—President, Dr. W. H. Lilly, Concord; Secretary, Dr. F. O. Rogers, Concord.

Randolph County Society—President, Dr. S. A. Henley, Asheboro; Secretary, Dr. C. C. Hubbard, Worthville.

Guilford County Society—President, Dr. M. T. Fox, Guilford College; Secretary, Dr. Thos. R. Little, Greensboro.

Ashe County Society—President, Dr. J. W. Colvard, Jefferson; Secretary, Dr. J. L. Ballou, Crumpler.

Forsythe County Society—President, Dr. H. S. Lott, Salem; Secretary, Dr. R. D. Jewett, Winston.

New Hanover County Society—President, Dr. T. S. Burbank, Wilmington; Secretary, Dr. E. J. Wood, Wilmington.

Columbus County Society—President, Dr. N. A. Thompson, Whiteville; Secretary, Dr. J. C. Hall, Boardman.

Sampson County Society—President, Dr. R. E. Lee, Clinton; Secretary, Dr. G. L. Sikes, Salemberg.

Duplin County Society—President, Dr. John M. Faisons, Faisons; Secretary, Dr. Ben. R. Graham, Wallace.

Scotland County Society—President, Dr.

D. M. Prince, Laurinburg; Secretary, Dr. A. W. Hamer, Laurinburg.

Johnson County Society—President, Dr. G. J. Robinson, Smithfield; Secretary, Dr. Etheldred Hooks, Smithfield.

We are indebted to Dr. J. Howell Way, of Waynesville, our popular and active Secretary of the State Society, for the above information.—[EDITOR.]

Book Notices.

A Compend of Human Anatomy. By Samuel O. L. Potter, M. A., M. D., M. R. C. P. London, formerly Professor of the Principles and Practice of Medicine in the Cooper Medical College of San Francisco; author of the "Handbook of Materia Medica, Pharmacy, and Therapeutics," "Quiz-Compend of Materia Medica," "Index of Comparative Therapeutics," and "Speech and Its Defects;" late Major and Surgeon of Volunteers, United States Army. Seventh edition. Revised and Enlarged. Philadelphia: P. Blakiston's Sons & Co., 1903.

This is one of the series of quiz-compends issued by the publishers, and the fact that it passed through six editions in the course of twenty years affords satisfactory testimony as to its value. The author states that the present edition has been entirely rewritten, the text being brought into harmony with the most recent anatomical text-books. About twenty additional illustrations have been inserted and several of the old cuts have been replaced by newer ones. Although intended primarily for students and for others preparing for examination, the little work will serve in a very satisfactory way as a book of ready reference for the practitioner who wishes to jog a halting memory in an emergency and has not the time or the opportunity to consult one of the larger treatises.

Consumption, a Curable and Preventable Disease. What a Layman Should Know About It. By Lawrence F. Flick, M. D., Medical Director of the Henry Phipps Institute for the Study and Prevention of Tuberculosis. 295 pages. Philadelphia: David McKay. 1903. Price, $1.00.

This is a sane study of a great problem. The author is an anti-alarmist, and his words may be profitably read and pondered over by physicians as well as by laymen. He presents his views in simple language, entirely free from the lurid expressions so often found in books on this topic. From a careful examination of his pages our verdict is that they form the best presentation of the tuberculosis problem, socially and ethically considered, that has yet appeared.

Diseases of the Ear.—A Text-Book for Practitioners and Students of Medicine. By Edward Bradford Dench, Ph., M. D., Professor of Diseases of the Ear in the University and Bellevue Hospital Medical College; Aural Surgeon, New York Eye and Ear Infirmary, etc. With fifteen plates and one hundred and fifty-eight illustrations in the text; third edition, revised and enlarged. D. Appleton & Co., New York and London. Price $5.00.

The general plan of the two former editions of this work is too well known to necessitate any discussion in reviewing the third edition, in which it is still adhered to.

The existence of this publication of the work is more than justified by the large sales of the former editions, which make it necessary to keep a work of its value up to date.

Much of the new matter added to this volume is upon the practical operative treatment of chronic suppurative otitis media and its intra-cranial complications—a subject of the utmost importance to the general practitioner as well as to the specialist. Especially full are the operations for the relief of sinus, thrombosis and abscess of the brain, embodying many valuable hints from the extensive experience of the author. Quite a number of new plates have been added. Two of these, colored plates, showing the anatomy of the internal jugular vein and the technique of exploratory craniotomy, were prepared from actual dissection by the author, and are especially worthy of mention.

We can heartily recommend the work to all practicing physicians.

A Compend of Diseases of the Skin. By Jay F. Schamberg, A. B., M. D., Professor of Diseases of the Skin, Philadelphia Polyclinic and College for Graduates of Medicine; Fellow of the College of Physicians of Philadelphia. Third edition, revised and enlarged. With 106 illustrations. Philadelphia: P. Blakiston's Son & Co. 1903. Price, 80 cents net.

This little book was designed for the use of students and practitioners as a rapid reference work and key to the study of dermatology. In it the subject of diseases of the skin has been presented in a succinct and, at the same time, readable form. Especial attention has been paid to the differential diagnosis and treatment of the more important affections.

Progressive Medicine. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M. D., assisted by H. R. M. Landis, M. D. Volume III. September. 1903. Diseases of the Thorax and Its Viscera, including the Heart, Lungs and Blood vessels—Dermatology and Syphilis—Diseases of the Nervous System—Obstetrics. Lea Brothers & Co., Philadelphia and New York. 1903.

The physician or surgeon intent upon keeping abreast of the times must look forward with pleasure each quarter to the coming of *Progressive Medicine*. There he finds summed up and analyzed by master minds the advances in professional knowledge; and so carefully is it digested and arranged that in a short time he can grasp all of importance that has appeared in the world's literature of medicine. In the current issue Ewart, of London, discusses diseases of the thorax, including the lungs, heart and blood vessels; Gottheil, of New York, reviews the advances in our knowledge of skin diseases and syphilis; Speller, of Philadelphia, writes of nervous diseases; and Norris, also of Philadelphia, discusses obstetrics.

A System of Physiologic Therapeutics.—A Practical Exposition of the Methods, other than Drug-giving, Useful for the Prevention of Disease and the Treatment of the sick. Edited by Solomon Solis Cohen, A.M., M.D. Vol. VIII. Rest, Mental Therapeutics, Suggestion. By Francis X. Dercum, M.D., Ph.D. Philadelphia: P. Blakiston's Son & Company. 1903.

The eighth volume of this series has appeared under the authorship of Dr. F. X. Dercum, of Philadelphia, on the subjects of Rest, Mental Therapeutics and Suggestion. Of these three therapeutic measures, Rest, or the so-called "rest-cure," is given the place of chief importance. In working out this important branch of his subject, Dr. Dercum has gone rather far afield in considering etiological and pathological as well as clinical and diagnostic matters, all of which, however, add very materially to the comprehensiveness and value of the book. The final section concerns itself with suggestion. This subject receives a skillful and rational treatment which should be appreciated not only by those concerned in diseases of the nervous system, but also by practitioners in every branch of medicine. A brief consideration is given of the curious and always interesting vagaries of the human mind, which have resulted in such methods of treatment as metallotherapy, mind cure, faith cure, and Christian Science. We commend especially Dr. Dercum's views on the subject of Rest. There can be no question that this method of treatment has been overdone, frequently to the positive detriment of the patient's condition. What we need is a sane, rational, presentation of this important therapeutic measure, taken in conjunction with other means of treatment. This Dr. Dercum has apparently given us. He believes in work and exercise as well as rest in many functional nervous disorders. "Partial rest" is a favorite expression with him, and this, we think is usually indicated. Naturally in a book of this sort many topics slightly foreign to the subject under discussion, for example, the symptomatology of various diseases, are taken up, though not in detail. In general we are glad to say that this is a fitting continuation of the excellent series of volumes which have preceded it. No physician will make a mistake to buy the complete set of these books.

Lea's Series of Medical Epitomes. An Epitome of Inorganic Chemistry and Physics. By A. McGlannan, M. D., of the College of Physicians and Surgeons, Baltimore. 12mo. of 216 pages, illustrated with 20 Engravings. Cloth, $1.00 net. Lea Brothers & Co., Publishers, Philadelphia and New York.

The author's purpose has been to set forth the accepted and proved facts, that go to form the foundation of the sciences of Inorganic Chemistry and Physics, in a manner which will conduce to clear and easy understanding by students of Medicine, Pharmacy, Dentistry, etc.

Originality is, of course, not claimed for the little volume, and although an earnest endeavor has been made to include all essentials, accepted to date, the reader will not find novel or unsettled theories exploited, nor mention of matters that are simply interesting or curious, but without practical value. The next volume of this series to appear will be by the same author, and will cover the essentials of Organic and Physiological Chemistry.

As in the other volumes of the Medical Epitome Series, the text is not interrupted with questions, but is continuous for connected reading, with proper headings so that any desired point can be readily found. The valuable features of quizzing are provided for by the questions at the end of each chapter.

For the needs of the student in keeping fully abreast with his medical course, or in preparing for examinations, or for the physician or surgeon who desires quickly to post himself to date, the Medical Epitome Series is unsurpassed.

The Four Epochs of Woman's Life. Maidenhood, Marriage, Maternity, Menopause By Anna M. Galbraith, M. D., Author of "Hygiene and Physical Culture for Women; Fellow of the New York Academy of Medicine, etc. With an Introductory note by John H. Musser, M. D., Professor of Clinical Medicine, University of Pennsylvania. Second Edition, Revised and Greatly Enlarged. 12mo. volume of 247 pages. Philadelphia, New York, London: W. B. Saunders & Co., 1903. Cloth $1.50 net.

This work, written for the instruction of the laity on subjects of which every woman should have a thorough knowledge, is indeed a timely and excellent one. The fact that a second edition has been demanded in such a short time is sufficient proof that women have at last awakened to a sense of the penalties they have paid for their ignorance of those laws of nature which govern the epochs of their lives. The language used is clear and comprehensive, yet, withal, modest, and the meaning easily grasped even by those unfamiliar with medical subjects. As a further aid, a comprehensive glossary of medical terms has been appended.

In this new edition the author has made some excellent additions, viz: A section on "The Hygiene of Puberty;" one on "Hemorrhage at the Menopause a Significant Symptom of Cancer;" and one on "The Hygiene of the Menopause." These sections make the work the very best on the subject we have seen, and physicians will be doing a real service by recommending it to their patients.

Manual of the Diseases of the Eye. For Students and General Practitioners. By Charles H. May, M. D., Chief of Clinic and Instructor in Ophthalmology, College of Physicians and Surgeons; Ophthalmic Surgeon to the French Hospital, New York; Consulting Ophthalmologist to the Red Cross Hospital, New York; Adjunct Ophthalmologist to Mt. Sinai Hospital, New York, etc. Third edition revised. With 275 original illustrations, including 16 plates, with 36 colored figures. New York: William Wood & Co. 1903.

The second edition of this manual appeared in September, 1901, and was exhausted in three weeks; two reprints have since been issued. In presenting the third edition, the author expresses his high appreciation of what, we might add, is a well deserved compliment. In the third edition every page has been carefully examined, and a considerable number of alterations and additions have been made; some new illustrations, including three colored plates, have been added. The volume has been kept up-to-date, but has not been increased in size, the original plan of presenting a book for the student and general practitioner having been adhered to. It gives us pleasure to recommend this book.

Practical Medical Series of Year Books. Under the General Editorial Charge of Gustavus P. Head, M. D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School, etc. Vol. IX.—Physiology, Pathology, Bacteriology, Anatomy, Dictionary. August, 1903. Chicago: The Year Book, Publishers. 12mo. Pp. 233. Cloth. Price, $1.25, or for the Annual Series of ten volumes, $7.50.

Whoever becomes an annual subscriber of this series will get each year a good statement of advances in each department of medicine. It forms an invaluable addition to the library of any doctor who undertakes to keep up with the times, and the doctor of this day who does not read his journals and keep himself well supplied with standard text books is soon destined to be a drag upon the profession. The present volume notes the advances in pathology and anatomy—compiled by W. A. Evans, M. S., M. D., professor of Pathology, College of Physicians and Surgeons, Chicago. Dr. Adolph Gehrmann, professor in the same college, notes the advances in Physiology, Bacteriology and Hygiene; William Healy, A. B., M. D., Instructor in Gynecology in Northwestern University Medical School, adds a dictionary of about 30 pages, double column, of new words used in medicine, etc., introduced in the last few years. In the Pathology of Yellow Fever, Malaria, etc., full descriptions and illustrations are given of the mosquitoes, etc., which have been of such interest as causative of this class of diseases, etc.

A Text-Book of the Diseases of Women.—By Thomas A. Ashby, M. D., Professor of Disease of Women in the University of Maryland; Fellow of the American Gyneological Society; Ex-President of the Medico-Chirurgical Faculty of Maryland, and of the Baltimore Gynecological and Obstetrical Society, etc., etc., 8 vo., cloth, pp. 661, with 133 Illustrations. Wilkins & Williams Co., Publishers. Baltimore. 1903.

This is a new candidate for a place in a well-equipped Medical Library, prepared for the use of students and practitioners, presenting in a concise and practical way all the subjects included in the study of the Diseases of Women. Anatomy and development of the female genitalia are carefully considered. Much importance is given to Physical Diagnosis. The subject of Antiseptic Surgery, although briefly considered, yet with sufficient detail, considering its importance. The anatomical arrangement has been resorted to as the most simple and direct way of presenting each subject. The various operations have been described and fully illustrated, thus giving practical information of operative gynecology.

The author has endeavored to teach principles rather than describe unnecessary details and has selected what his wide experience has shown him to be the best method of operation for each condition, assuming that a student as well as a practitioner should learn to think and act for himself.

The mechanical execution of the work is most excellent.

Modern Surgery: General and Operative. By John Chalmers DaCosta, M. D., Professor of the Principles of Surgery and of Clinical Surgery in the Jefferson Medical College, Philadelphia. Handsome octavo volume of 1099 pages, with over 700 illustrations, some in colors. Fourth Edition, Greatly Enlarged and Entirely Reset. Philadelphia, New York, London: W. B. Saunders & Co., 1903. Cloth, $5.00 net; Sheep or Half Morocco, $6.00 net.

This work presents in a concise form the fundamental principles and the accepted methods of modern surgery. Obsolete and unessential methods have been excluded in favor of the living and the essential. The author's extensive experience as a teacher is evident throughout the entire work, the statements being clear and to the point.

The progress of surgery in every department is one of the most notable phenomena of the present day. So many improvements, discoveries, and observations have been made since the appearance of the last edition of this work that the author found it necessary to rewrite it entirely. In this fourth edition the book shows evidences of a thorough and careful revision, and there has been added much new matter. There have also been added over two hundred excellent and practical illustrations, greatly increasing the value of the work. Because of the great amount of new matter it has been deemed advisable in this present edition to adopt a larger type page. This is a great improvement, rendering, as it does, the work less cumbersome. The book will be found to express the latest advances in the art and science of surgery. We certainly recommend it.

A Manual of the Practice of Medicine. By A. A. Stevens, A. M., M. D., Professor of Pathology in the Woman's Medical College of Pennsylvania; Lecturer on Physical Diagnosis in the University of Pennsylvania; Physician to the Episcopal Hospital and to St. Agnes' Hospital; Fellow of the College of Physicians of Philadelphia, etc. Sixth Edition, Thoroughly Revised, Enlarged, and Reset. Handsome Post-actavo of 556 pages, illustrated. Philadelphia, New York, London: W. B. Saunders & Co., 1903. Flexible Leather, $2.25 net.

The popularity of this manual on the Practice of Medicine can be attested for by its numerous editions. The work covers completely the ground gone over by the student, especial stress being laid on diagnosis, differential diagnosis, and treatment. Each disease is treated in a concise, clear, and scientific manner, and the reader can not fail to grasp the author's meaning. This sixth edition has been entirely reset and greatly enlarged, without changing, however, the original style of the work. Many articles, notably those on Diseases of the Digestive System, Diseases of the Myocardium, Malaria, Diseases of the Blood, Gout, Diseases of the Spinal Cord and Larynx, have been entirely rewritten, thus bringing the work absolutely abreast the times. After a careful examination we can unhesitatingly recommend this book to students.

Radium and Other Radioactive Substances. By William J. Hammer. Price, $1.00. New York: D. Van Nostrand Company, 1903.

This small book of less than one hundred pages is an essay upon radium, polonium, actinium, and thorium, with a consideration of phosphorescent and fluorescent substances, and of the properties and applications of selenium and the treatment of disease by the ultra-violet light. It is hardly necessary for us to state that it is impossible for any author to condense all the information described in this title in the brief space of 72 pages, at least to an extent which will give the physician complete information as to the therapeutic rules which should govern the employment of light rays in the treatment of disease. At the same time we heartily welcome its publication, since it provides information in regard to those substances with which heretofore we have not been familiar, either from a physical or a physiological point of view. There are many of our readers who will doubtless be very glad to obtain in this condensed way information in regard to this novel subject.

Transactions of the Medical Society of the State of Alabama, 1903.

The transactions of this Association comes to us this year in a much larger volume than usual. This is one evidence that the medical profession in Alabama is growing, not only in numbers but in their efforts to add something valuable to the medical literature of the country. Few Societies in this country show as many signs of prosperity as this one.

Transactions ot the American Pedatric Society, 1903.

This book represents the proceedings of the fourteenth annual meeting of this well-known association The work is well gotten up, and is carefully edited. It is a volume of 310 pages—printed on beautiful paper, and is illustrated by many half tone cuts. The Secretary is Dr. Samuel S. Adams, of Washington, D. C.

Transactions of the Medical Society of the State of New York, 1903.

The proceedings this year are published, as usual, in handsome book form. The volume is a large one, containing 514 pages. It contains many beautiful half tone illustrations, which add a great deal to the value of the book. Dr. Frederic C. Curtis, of Albany, is Secretary, and Dr. A. T. Bristow, of Brooklyn, is President.

Transactions of the American Laryngological Association, 1903.

This volume of 300 pages is full of valuable and interesting matter pertaining to this specialty. Many names familiar to us on account of their prominence, appear in this book. It contains many beautiful illustrations which add very much to its value. Dr. Newcomb, of New York, is the Secretary.

Proceedings of New Hampshire Medical Society, 1903.

This volume of proceedings is fully equal if not superior to any of the copies formerly issued by this Association. It contains 256 pages and has many illustrations. Dr. C. P. Conn, of Concord, is Secretary.

Literary Notices.

The editor of the *Review of Reviews* comments in his October number on Canada's part in the Chamberlain zollverein programme, with especial reference to commercial union as a practical policy for the United States and Canada. His comments are supplemented and reinforced in an article contributed to the same magazine by Mr. Eugene G. Hay.

That delightful writer, R. Bosworth Smith, whose recent articles on "Owls" and "Ravens" attracted so much interest as they appeared in *The Nineteenth Century and After*, now contributes a charming sketch entitled "The Old Thatched Rectory and Its Birds," which *The Living Age* for September 26th reprints. Few writers on bird-lore add to their knowledge of out-door life so wide an acquaintance with literature, modern and classic, and so mellow a sympathy with human nature.

The November Lippincott's Magazine.

"A House Divided" is the taking title of the novel in *Lippincott's Magazine* for November. Its author's name, Ella Middleton Tybout, is a familiar one to readers of *Lippincott's Magazine*, though heretofore her productions have been in the line of short stories. Her "Parables in Black" lately running through Lippincott's are particularly striking and indicate that which is richly fulfilled in this latest work. The little State of Delaware has been chosen by Miss Tybout for the placing of "A House Divided," and her portrayal of a farmer who, because he believes his wife to be untrue to him, has not spoken to her for sixteen years, is a remarkably clever bit of characterization. Lippincott's novels are always worth while—and the November number sustains this opinion.

"The Girl with the Banjo" is by a writer whose pen-name, Jean D. Hallowell, keeps one guessing who is the real author of so racy a tale. The sex is confessed by such expressions as "a soncy little lace petticoat," and the whole thing shows the piquancy of a woman rather than the touch of a "mere man."

"The Man in the Tower," by Francis Howard Williams, is a forceful story of a railroad signal tower, where, in a supreme moment of danger, a man becomes almost divine.

A humorous story of a double elopement by Ralph Henry Barbour, called "At the Crown and Sceptre " is in the same delightful vein which has brought the author to the top wave of popularity.

"The Brothers Implacable," by Eleanor

L. Stuart, is a stirring episode of a secret society pitted against a mother's love for her son.

Clinton Dangerfield's little tale called "Hiram Mathew's Monument," tells about a village eccentric whose desire to be remembered by his fellow-citizens leads him to do that which places him among the local immortals.

"One Year in Namenia," by Judith Underwood, is a case of narrow escape from the prevailing epidemic, Divorce. And a humble pie "such as mother made" is the medium of salvation.

Two papers of much interest, and each possessing the intimate personal note, are contributed to the November number: "A Royal Interview with Italy's Queen," by Maud Howe, is a very pleasant description of a private interview with the Queen and a charming talk about Americans prominent in both worlds. In the third chapter of "Avowals" George Moore tears out Tolstoy and his work in a very radical fashion.

Offerings of verse are from Marie Van Vorst, Madison Cawein, Blanche Trennor Heath, Mary Teresa Waggaman, Meribah Philbrick Reed, Frank Preston Smart, Col. Kentucky, Florence Earle Coates, and H. Talbot Kummer.

The "Walnuts and Wine" department is fuller than ever of humor in varied forms.

Abstracts of the Leading Articles of the Month.

Prognosis and Treatment of Syphilitic Disease of the Nervous System.

W. R. Gowers (British Medical Journal, April 4th, 1903) says: Syphilitic disease of the nerve centers, developing in what may be termed the "adventitial" elements, produces symptoms for the most part through the changes it causes in the nerve elements themselves. But these are simple, not specific. They are secondary to the syphilitic disease, but they are the same as would be caused by any other disease of the same character, whatever its nature. The significance of this fact is far reaching. Specific treatment acts only on the specific process. Two elements, the inflammatory and the neoplastic, can be traced in all syphilitic processes. In proportion as they are acute, the inflammatory element preponderates. The prospect of improvement and recovery depends on the extent to which, after the removal of the specific disease, the simple processes on which the symptoms depend, can pass away. For instance, in syphilitic arterial obstruction, there is thrombosis and a speedy, permanent destruction of tissue, and function can only be regained in so far as it is capable of compensation by the other hemisphere. But in the case of slow compression from a gumma, the possibility of recovery depends partly upon its degree, and still more upon its duration. Pressure paraplegia may be complete for a month, and yet recovery be perfect. If complete for three months, recovery is likely to be slightly imperfect; if for six months, only partial recovery can be expected; and after a year the return of function will be very slight. The cause of the symptoms of the various syphilitic diseases which damage the nervous system is a secondary result of the specific process. Remove the latter by treatment as completely as possible; the secondary effects may pass away, may only lessen, or may persist with only slight diminution. A gummatous cicatrix in the liver may be unimportant; in the nerve centers it may cause paralysis or epilepsy. The more rapid the development of the symptoms, the less is their course affected by specific treatment. Those which are the most deliberate are chiefly the result of a gumma; over these, treatment exerts its greatest influence, and in them the prognosis is the best. Rapidly developing symptoms, as in acute transvere myelitis, lead to a gloomy prognosis. In treatment we must rely on mercury and the iodides. Mercury is best given by inunction in the form of the oleate, a drachm of the 10 per cent. oleate being used once or twice a day—the same piece of flannel being used throughout. Iodide need rarely be given in more than ten-grain doses. Iodide and mercury should not be given together in full doses, except in urgent cases, for the reason that the iodides favor the excretion of the mercury, and the full effect of the latter cannot be obtained. And mercury should always be pushed until effect upon the gums has been attained. Specific treatment should be energetic, brief, renewed, but not continuous. It should stop at the end of eight weeks or so, and be renewed after two, four or six months. The patient should have three or four weeks' treatment with iodide every four months during the first year, and every six months for the next three years. Treatment may lose its power if continuously maintained. Iodides and mercury are useless in the postsyphilitic degenerative diseases—locomotor ataxia and general paralysis of the insane. The Arygill Robertson pupil is a most useful criterion of postsyphilitic degeneration; it often occurs as an isolated symptom.

Terminal Coma in Diabetes.

A. R. Elliott (N. Y. Med. Jour., April 4th, 1903) says that the severity of the cardiac and renal symptoms is extremely uncertain, and death is frequently caused apparently by an exacerbation of those symptoms rather than those of diabetes. In the treatment of diabetic coma prophylaxis is of the first importance. It is not a condition which develops insidiously but is usually heralded for days by obvious signs. The earliest indication of trouble is the appearance in the urine of the acid toxines. The first to appear is usually acetone, which is readily detected by the sweet chloroformic odor it imparts to the urine and breath of the patient. Subsequently diacetic acid and B-oxybutyric acids make their appearance and occasion the beautiful Burgundy red color which follows the addition of a solution of perchloride of iron to the urine, and which is known as Gerhardt's reaction. To the careful observer the appearance of this reaction intensifies the conviction previously awakened by the presence of acetone, that the patient is drifting toward diabetic coma. The latter test should be frequently made for it indicates that the albumin assimilation has begun, and it marks the dividing line between the mild and severe types. When this reaction appears the diet should be increased, for there is no longer hope of overcoming the glycosuria by dieting. He should be protected against all disturbing nervous influences, from fatigue and cold. He should drink freely, laxatives should be administered and copious colonic irrigations of saline solutions containing also sodium bicarbonate should be employed. Alkalies must be administered freely by the mouth and when coma threatens an intravenous or subcutaneous injection of a solution containing seven grains of sodium chloride and ten grains of sodium bicarbonate to the quart of water may be given. A bad prognosis should, however, be always given in case of coma, for a temporary relief is all that one may hope for.

Painful and Protracted First Stage of Labor.

Chapman and Foote (Brooklyn Medical Journal) discusses the causes of delay in labor as follows:

1. Cases of painful and protracted labor are defined from conditions presented without regard to time limits.

3. The etiology embraces mechanical and neurotic causes. The mechanical causes and their management are well understood and should be sought for first, in order, either that they may be excluded or the cases placed immediately under proper treatment.

3. The neurotic causes are divided into three classes, viz: (a) Those due to mental impressions; (b) general neurasthenia or hyperesthesia; (c) defective innervation.

4. The differential diagnosis in these neurotic cases is based mainly upon the character of the pains, the progress of the labor and the previous menstrual history.

5. The treatment, according to the cause, should be moral, medicinal or operative. The remedies used include morphine, chloral hydrate and cocain, locally. Chloroform should, as a rule, be withheld during the first stage. Morphine is most useful. Concerning this remedy, in neurasthenic states, they say:

The use of morphine in sufficient doses to produce sleep or drowsiness does not retard labor. Contraction and retraction continue although the patient may be unconscious of them. If the administration of the morphine does not result in sleep but simply relieves the acute pains, the patient will often refer to a feeling of distress in the pelvis or a sense of tightness in the epigastrium. By careful observation, it may be determined that these more or less indefinite sensations are due to uterine contractions. After administering a full dose of morphin, it is common to see a patient drop off to sleep for an hour or two and upon awakening complete the labor with a few strong contractions. On the other hand, the patient may not fall asleep, but the morphine so change the character of the pains that a rapid labor follows. It is not a rare experience, after administering a dose of morphine to a nagging case, and then leaving it for a short time, to return and find the child born.

Diagnosis by Vaginal Examination.

The Medical News says: It has become the fashion of the day to underestimate the need for, and to exagerate the risks of, vaginal examinations during labor. W. Stephenson holds that it is the interest of the patient, and medical attendant alike, that one or more vaginal examinations are indispensable. There are risks of omission as well as commission, and inasmuch as we are cognizant of the dangers in examining the patient, care will reduce them to a minimum. The dictum that "all the obstetrician needs to know in normal cases can usually be learned by abdominal palpation and auscultation," is a false and pernicious teaching. The general practitioner knows better. From the author's experience, confirmed by the observations of others, the second and fourth positions occur much more frequently than is generally supposed. Possibly the relative frequency may vary in different localities, but it is more possible that a considerable "personal equation" must be taken into consideration in estimating the results. If any one thinks that he meets with the fourth position (L. O. P.) in little more than 1 per cent. of cases, it is because he has yet to learn how to accurately diagnose them. Erroneous ideas as to the range of the fingers in the pelvis are traceable in the directions given whereby to diagnose the position of the fœtal head. In the instructions the common mistake is to represent it as possible to reach both fontanelles during one examination, and occasionally they are said to be equally accessible. This is not the case.

If one fontanelle be found, the other is certain to be beyond range, or not accessible, being covered by the soft parts, or being pressed against the pelvic wall. The second fontanelle can at times be reached, but only by increased pressure. The author directs that after recognizing the position of the small fontanelle, the finger should then pass along the sagittal suture until it reaches the large fontanelle and recognizes the four sutures that enter it. It should then search for the ears, the mastoid processes, and the lateral fontanelles, all of which may be found by following the lambdoid sutures to their terminations. So far as the facility of the mechanism is concerned, it matters little in which position the head may be lying; but it makes a great difference whether the head is flexed or not. Greater facility and precision in diagnosis of all the relations of the head to the pelvis can be attained (1) keeping a clear distinction between a forced and an ordinary examination; (2) introducing the idea of a normal range of the fingers, and determining what that range is; (3) the use of clearly defined terms, employed always in the same sense. The diagnostic value of the normal range of the fingers depends upon the recognition of the following facts: (1) If the posterior wall and the sacrum be felt, it is a sure evidence that the pelvis is abnormal; (2) when the fingers are fully introduced in the mesial line. the tactile spot corresponds fairly with the central line of the pelvis; it is easy therefore to determine the exact position of the os; usually it is central, but at times displaced; (3) when the os is moderately dilated the fontanelles as a rule are not accessible, but the sagittal suture can generally be felt crossing the os; (4) when the os is more dilated, or if the finger be passed within the lip, a fontanelle may be felt, if the smaller the head is flexed; if the larger the head is somewhat extended; (5) only one fontanelle is within range at a time, the smaller indicates flexion, the larger insufficient flexion, or it may be extension of the head. The diagnosis of the location of the head is made as follows: First position (L. O. A.)—The small fontanelle is found in the left anterior, the sagittal suture running backward in a right oblique diameter, the large fontanelle is beyond range. The second position (R. O. A.)—The sagittal suture lies in the left oblique diameter, but here it is often difficult to find any suture at all. The third position (L. O. P.)—Sagittal suture in right oblique diameter, but the large fontanelle lies in the left anterior. Insufficient flexion is the cause of delay in this position; should the small fontanelle be within range from the first, the mechanism is as easy as when the occiput is anterior. The fourth position (L. O. P.)—The sagittal suture runs in the left oblique diameter. Till the head is well flexed the small fontanelle in the left posterior is beyond range. With good flexion this may be mistaken for an L. O. A. Error may be avoided by carefully noting the direction of the sagittal suture.

The Present Status of X-Ray Therapy in the Management of Cancer.

Clarence Edward Skinner (*Virginia Medical Semi-Monthly*) states that it is impossible at the present time to form a reliable opinion as to the limitations of X-ray therapy in the management of cancer, and discusses at some length the reasons therefor. Prominent among these are that there have been many X-ray machines on the market, which are incapable of doing good therapeutic work; that the physicians who are using the agent to-day are most of them novices in the use of the X-ray—especially in its therapeutical applicability; and that many clinicians are reporting results obtained under the use of the ray who are depending entirely upon radiographers and sometimes nurses for the application of the ray. Dr. Skinner considers that in order to get good results from X-ray therapy, the operator must be thoroughly familiar with the agent in its therapeutical relations. He does not consider that a good radiographer is necessarily a good radiotherapist.

He divides cases of cancer with reference to the influence of X-ray therary into three primary groups: (1) Those affecting the layers of the true skin only; (2) those affecting the deeper soft structures either with or without involvement of the integument; and (3) those affecting the bones.

In the first group he believes the X-ray is the very best treatment now available, and bases his opinion upon the following facts: *First*, the total number of cases treated, both operable and inoperable—and the number of those now available for statistical purposes runs up into the hundreds—as large a proportion has been cured as has ever been claimed as the result of any other management. Some writers claim, and apparently with justice, that the proportion of cures is larger.

Second, of the cases cured, a much smaller proportion has shown evidences of recurrence within a given period of time following the cure, as compared with the recurrences observed within a like period of time following the cure of cases by the knife or caustics, and the vast majority of recurrent cases have readily responded to a second application of the rays.

Third, the cosmetic effect obtained after the X-ray cure of cutaneous cancer is incomparably superior to that obtainable by a cutting operation, or by the application of escharotic pastes.

Fourth, the application of the X-ray is not only usually quite devoid of painful consequences, but is frequently capable of entirely relieving the pain, which is already present as the direct result of the cancerous process.

In the second group of cases he favors initiatory total extirpation, if possible, to be followed at once with a course of X-ray applications; but when the malignant disease affects the lip, ear or nose it is justifiable to use the X-ray alone if circumstances should seem to make such a course desirable, standing ready to operate at once if the disease shows any tendency toward spreading. He considers this course justifiable because a number of well-authenticated cases of cancer in these regions have been cured by the X-ray alone.

In intra-abdominal cases the percentage which has shown material benefit has been so small that extirpation, if possible, should be the first step, to be followed by a long course of X-ray treatments. No evidence as to the value of the combined methods is available, as the cases which have come under treatment by the X-rays have almost all been in such an advanced stage that total operative removal has been impossible. The fact that a few cases have been cured under such discouraging conditions, however, affords ground for the belief that early operation combined with the applications of the X-ray will prove to be a beneficial management in the future.

With the cases in the third group, the speaker favors total extirpation, to be followed by X-ray applications, and says he does not know of a case involving bony tissue that has been cured by the X-ray alone, and that he knows of but one operator who claims such a result, and this operator only claims one case.

Dr. Skinner does not believe that X-ray applications induce or hasten metastasis, although he admits that the opinions of some of those who do are justified by their individual experiences.

He favors a tube producing rays of high penetration for deeply located growths, and rays of either high or low penetration for superficial growths.

Instances are referred to where epitheliomatous degeneration of healthy tissues has followed long-continued frequently repeated exposures to the rays, and two cases of severe X-ray necrosis are cited in patients who had been thoroughly "tanned" by the treatment, thereby exploding the idea that a patient who "tans" well by the rays will not be in danger of a burn.

The paper concludes with an expression of opinion that "the therapeutic application of the X-ray should be entrusted only to the hands of operators who are skilled and experienced in this particular line of work, as the difference between efficient and faulty technique will frequently constitute the difference between clinical success and failure, as well as between safety and danger to the patient."

Vaginal Incision in Sepsis Following Abortion.

Hunter Robb (Am. Gyn., June, 1903), makes the following statements: (1) Of all married women who die between the ages of twenty and thirty nearly 10 per cent. succumb to a puerperal infection; (2) at the present day, in private practice, at least, the mortality from childbed fever is nearly as high as it was forty years ago. Such a confession is astounding and humiliating, and we must of necessity come to the conclusion that the advantages of aseptic and antiseptic procedures are either chimerical or that the belief in them is still to a large extent more theoretical than practical. So far as the author's own experience goes, the remote results of a septic process following labor or an abortion, implicate more particularly the fallopian tubes and ovaries in 40 to 60 per cent. of the cases. As a rule the infection begins in or near the external genitals. And, provided it is of a virulent nature, it implicates successively the structures of the vagina, the cervix, the uterus and the fallopian tubes, and thus extends to the peritoneal cavity. At other times it reaches the peritoneum through the uterine walls by way of the lymphatics or blood vessels. Accompanying the inflammation there is often an exudate, which may accumulate in the peritoneal cavity or may remain sealed up in the fallopian tubes. The exudate may be of any form or mixture of forms. If absorption of the exudate does not occur, organization takes place, with the formation of adhesions, which bind down the tubes and ovaries more or less firmly, and thus interfere with their functions. In this way various symptoms are produced which cause the patient a greater or less amount of inconvenience until the adhesions are separated. Under such circumstances we have two problems to solve: (1) How can we insure to the patient the best chance for her life? and (2) How can we, at the same time, prevent the occurrence of unfortunate sequelæ? The author advises the following method of dealing with an infection after an abortion: The cavity of the uterus is first cleaned out to prevent the continued absorption of toxins from any infectious material which may be present, and thus, at least, limit the intensity of the process. For this the finger alone is employed, or combined with the curette. The cavity of the uterus is washed out with hot saline and two ounces of peroxide of hydrogen; it is then cleansed with saline solution and sponged dry. After this two or three drams of iodoform powder are placed into the uterine cavity, which is then packed with sterile gauze. Now the cul-de-sac is freely opened, and after evacuating any fluid which may be present, it is irrigated with hot saline, followed by two ounces of peroxide of hydrogen. This, in turn, is washed out and the cavity wiped dry. Lastly, two or three drams of sterilized iodoform powder are dusted into the cul-de-sac, after which it is packed tightly with strips of sterile gauze. By this procedure the author believes that two advantages are obtained: (1) By evacuating the fluid from the cul-de-sac further absorption is prevented; (2) the ovaries and fallopian tubes are saved by preventing adhesions which would almost invariably form as a result of the organization of the exudate. His experience has shown that the secretions from the uterine cavity are almost always sterile, while organisms are invariably found in the exudate in the cul-de-sac.

Transmission of Syphilis.

According to the *Australasian Medical Gazette*, the tribunal of the Seine has just delivered a very important judgment. By its ruling the transmission of syphilis by persons knowing themselves to be affected, even though they do not wish to transmit the disease, comes under the category of injury inflicted on another, and gives the victim the right to an indemnity. Already the law has condemned the parents whose child infects a nurse with syphilis. The direct transmission of the disease through sexual relations considered as a wound for which indemnity is payable came recently under the purview of French law for the first time. The case in question was that of a man suffering from syphilis who had sexual intercourse with a girl, aged sixteen years, who contracted the disease from him. She had previously been quite well and a virgin. The court condemned the man to pay 12,000 francs damages.

Furunculosis: A Survey and an Application.

A. C. Miller (*Edinburgh Medical Journal*) says that as soon as a boil has appeared the most scrupulous care should be bestowed upon it with the view of limiting its infectivity. Unna's mercurial plaster, or its equivalent, ought in the first instance to be applied in the hope of promoting absorption. In the event of this object being defeated, maturation should be promoted by means of an antiseptic dressing, and the discharge should be very carefully guarded from coming in contact with the surrounding skin. Should the furuncle assume the dimensions of a carbuncle, this ought not to be incised, but it will be advisable to enlarge or connect the fenestræ in the skin in order to allow freer egress to the discharge and slough. The local condition being the paramount one in the class of cases now under consideration, it is necessary to regard the constitutional element only in the sense of maintaining the general tone. The author has always had good results from exhibiting morphia to control pain and favor sleep. Iron and arsenic are invaluable hematonics, while wholesome—not too generous—feeding, with, in depressed anemic cases, the administration of suitable stimulants in careful quantity, completes the therapeutic repertory.

Pyelitis as a Cause of Intermittent Pyrexia in Children.

W. Cecil Bosanquet (*Edenburgh Medical Journal*) describes the cases of this affection. The frequency with which it occurs, he says, is difficult to estimate, as it is a condition which can be easily overlooked. Morse considers that it is not at all uncommon. It does not appear to be dangerous to life, in spite of the severity of the symptoms to which it gives rise. It must not be supposed that every rise of the thermometer is to be attributed to this cause, as an attack of indigestion after any indiscretion in diet may often be accompanied by fever. Still there remains a number of cases in which the condition is more serious, the feverish attacks being accompanied by pronounced symptoms of illness. It is important to make a careful examination of the urine in obscure cases of pyrexia, especially when it is of a recurrent type.

Atonic Dyspepsia.

Carter (*Med. Press and Circ.*) considers that atony and motor insufficiency are by no means interchangeable terms, for motor insufficiency is a functional sign arising from various causes, but is never a primary state. Motor insufficiency means a delay on the part of the stomach in getting rid of its contents. Two well marked groups of this condition may be recognized, according as the stomach empties itself once in 24 hours or not. When the stomach is emptied before each succeeding meal there are no symptoms. But it is necessary that the organ should have rest between digestive periods; continuous presence of food in the stomach causes trouble. In case the stomach can empty itself over night, the trouble will be confined to the day; if not, the difficulty is continual, and pathologic fermentation will occur. This state we may call retention, in distinction from simple motor insufficiency. Motor insufficiency may be due to one of 2 causes: (*a*) nonobstructive; (*b*) obstructive. Nonobstructive may be divided into (1) simple atony, (2) atony with gastritis. Atony and gastritis may occur singly or together, and motor insufficiency is present in hypertrophic gastritis even in the absence of atony. Obstructive causes may be classified as (*a*) simple or (*b*) malignant. In the diagnosis of motor insufficiency, Chomel's sign, splashing sounds on succession are obtainable when the stomach should be empty. The use of the stomach tube will yield information of the same kind with a greater degree of certainty. Gastroptosis is best observed when the stomach is inflated, as may be done by giving 40 grs. bicarbonate of soda and 25 grs. citric acid. The urine is much less diminished in obstructive than in atonic motor insufficiency. Obstruction delays chiefly solids; atony both solids and fluids. Vomiting rarely occurs in simple atonic stagnation; it is much more frequent in obstructive stagnation or retention. In atony vomiting is less frequent and more copious. In obstruction it is more frequent, preceded by pyrosis, and the time of its occurrence bears a relation to the meal time. In treatment avoid the routine use of acids and alkalies. Try to make an exact diagnosis of the causal condition and treat that cause. The vast majority of cases of simple indigestion in women arise from their mode of dress. In such cases an abdominal support which presses the abdomen upward should be substituted for the corset, which tends to press downward. Diet should be prescribed of such quantity and quality that the stomach can empty itself before the next meal; perhaps best done by lengthening the intervals between meals. Begin the day with a glass of hot water, but no food for one hour afterward. Then a plain breakfast. Between this and the mid-day meal nothing should be taken except a glass of hot water. For this meal and supper avoid easily fermented foods and hold to proteids. A rest of from ½ to 1 hour after meals is desirable. As in most cases there is looseness of the abdominal walls, exercise directed to restore their function is a primary consideration. Massage does good when exercise cannot be taken, except in cases of fermentation. Hydrotherapy in the form of the alternate hot and cold douche is useful. Electricity may also be employed to the same end. As to aperients, always endeavor to avoid their use by care in diet and hygiene. Strychnin is the most valuable drug for atonic subjects. Intestinal antiseptics are delusive; but resorcin can sometimes be employed with advantage. In any case of well-marked retention it is absolutely essential to satisfactory treatment that the stomach be occasionally washed out with the tube, and the best time to do this is in the early morning.

Caesarian Section in Placenta Pravia.

Moran (*American Journal of Obstetrics*) has collected sixteen cases operated upon by thirteen different operators. Five mothers died, 31.5 per cent, and four infants, 25 per cent. Eleven children were delivered alive. One of the cases was operated upon before viability on account of infected placenta. Seven were done after the Sanger method; eight were of the Porro variety; one unknown.

Statistics might be quoted indefinitely, but those given will suffice to show that no fixed line of treatment can be adopted, and that in the hands of different operators varying results will be obtained according to the exigencies of the case and the methods employed. We know that in lateral previa there is rarely any difficulty, and labor usually terminates naturally. In the marginal, however, it becomes more dangerous, and the central is always a matter of the gravest concern. Hemorrhage and sepsis are the two most important dangers in all cases of previa, and to these rupture of the uterus as a third possible factor may be added in accouchement force, and more particularly where attempts are made to deliver the child through an insufficiently dilated cervix. Thorough asepsis, rupture of the membranes, partial detachment of the placenta, efficient tampon, dilatation of the cervix with Barnes's or McLean's bag, and application of forceps should give good results in the majority of marginal cases. Where version is indicated and there is a possible choice between bipolar and internal version, the former will be the safer procedure for the general practitioner.

Regarding the absolute and relative indications for Cæsarian section in placenta previa, it is yet too soon to formulate any fixed rule for guidance; future experience alone can determine. Statistics thus far at first glance are not very encouraging, but it must be said that a careful analysis of the reports of cases shows that the majority of them were in unfavorable condition from repeated hemorrhages and failure of other methods of intervention. Of the fatal cases, three died within twenty-four hours of the shock; one on the fourth day, after a secondary operation; and the other of septic peritonitis fifty-six hours after operation. Whether these results will be improved upon will depend upon a more thorough study of the cases during pregnancy, early recognition, and prompt action while the patient is in good condition.

The Use of Antitoxin in the Treatment and Prevention of Diphtheria.

Rudolf (*British Medical Journal*) says every case of diphtheria should be treated with antitoxin. As a rule, the diagnosis is easily made clinically, and it is better in such cases not to wait for the bacteriological report, but to inject the serum at once. Then, if the diagnosis is confirmed by the bacteriologist, one has stolen a "march" of several hours on the disease; if the case proves not to have been diptherial, one has at least done no harm.

The serum should be administered not only early, but also freely, 3000 units being an average first dose.

This use of antitoxin in no way interferes with the employment of any medicinal or other treatment which may be indicated, but all the latter are of secondary importance during the first few days of the illness.

All individuals who are exposed to infection should be given immunizing doses of antitoxin, just as all people who run the risk of small-pox infection should be vaccinated.

Five hundred units is the ordinary immunizing dose, but 300 seems to be sufficient for children under 2 years of age. The dose should be repeated at least every three weeks while any danger of infection lasts.

◆

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Am. Hydrochlor	2½ ozs.
Tr. Stramonii	½ oz.
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Syr. Glycyrrhizæ	2 drms.
Tongaline	6 ozs.

M. Sig....Teaspoonful three times a day.

Miscellaneous.

Empyroform, a New Tar Preparation.

By Dr. Alfred Kraus, Second Assistant at
Prof. F. J. Pick's Imperial and Royal
Clinic for Skin and Genito-Urinary Diseases, Prague.

(Abstracted from the *Prager Medicinische Wochenschrift*, August 13th, 1903.)

Tar is a remedy that dermatologists use daily and whose services are in many cases indispensable. Yet the objections to its employment are manifold and too well-known to need recapitulation; and they appertain to all the derivatives that have heretofore been proposed.

Lately, however, we have had occasion to test the efficacy of a new tar preparation called Empyroform, manufactured and kindly placed at our disposal for experimental purposes by the Schering Chemical Factory of Berlin. Empyroform is a condensation product of birch tar and formalin, and occurs as a very fine, dark greyish-brown, floury powder. In its pure state it is nearly odorless, and there is no trace of tar smell about it. It is non-hygroscopic, insoluble in water, alcohol and ether, but soluble in acetone, the caustic alkalies and chloroform. We used it in 1 per cent. solution with chloroform and acetone; as a 1 per cent. paint with equal parts of chloroform and traumaticin; and as a 5 per cent. salve with equal parts of vaselin and lanolin. We also employed it as an addition to Pick's linimentum exsiccans:

℞ Linim. exsiccant, Pick, 100.0 (3½ ounces).
Empyroform, 5.0 to 15.0 (1¼ drams to ½ oz).

In the solutions there was absolutely no smell of tar, and that of the solvent disappeared rapidly after application. The 5 per cent. salve was as good as odorless, and even the 15 per cent. liniment smelled but slightly of the drug. In all the vehicles, if properly prepared, the Empyroform was suspended in the form of the finest particles and, applied in a thin layer, gave the skin only a very faint tint. These qualities alone suffice to show the advantages of the new drug; decision as to its value depends, however, upon its action in disease processes.

As chronic eczema is the most common indication for tar, we used Empyroform in many cases of the most varied knd and extent. We soon found, however, that the chloroform and traumaticin-chloroform solutions dried too quickly and occasioned itching and scratching. We therefore limited ourselves to the employment of the salve and the liniment, and with these we had surprisingly good results. The remedy in these forms was excellently borne, and in not a single case did we note any ill effect or recrudescence of the disease process. And this in spite of the fact that, as the indications for its employment became clearer, we extended its use to cases of subacute eczematous disease in which the process had by no means reached the torpid stage. As a general thing we found that the redness and infiltration retrogressed in the shortest possible time, the feeling tension disappeared, and recovery was rapid even in cases that had shown themselves entirely refractory to other remedies, more especially to tar.

Most markedly evident, however, and deserving special notice here, was the wonderful disappearance of even the most violent itching under the influence of the remedy; even when this was so intense as to completely obscure all the other symptoms, and when it had been so great and persistent as to profoundly react upon the patient's general health, there was usually a sudden change for the better under the use of the Empyroform. The patients could find no words enthusiastic enough in praise of the new remedy.

Experience finally taught us to employ Empyroform in the most varied stages of eczema. In contradistinction to tar, it was well borne even when the symptoms of active inflammation were still present; cases in which redness, epithelial lesions and secretion were yet in evidence. In these more acute forms the employment of the ointment as a spread plaster was found most appropriate; later on the plain ointment and finally the liniment, to which 2½ per cent. of lanolin could be added, also gave splendid results.

Without going into a number of extensive and tiresome case histories, I think that a short account of a fairly acute eczema treated in this way will serve to demonstrate the action of the Empyroform :

M. K., laborer, thirty-six years old, entered July 22d, 1903. Has had skin trouble for six weeks. Scalp scaling profusely, skin of entire face with exception of nose infiltrated, reddened and desquamating. Skin of forehead most affected, showing fissures and extensive accumulation of yellow crusts; similar condition upon the cheeks. On skin under chin impetiginous crusts, removal of which is followed by oozing of serum and blood. Skin of ears hard, infiltrated and covered with crusts. Extensive bleeding rhagades in both postauricular folds. Neck and nape markedly infiltrated, vividly red, and covered with large scales; latter area fissured; anterior portion of neck has the moist corium exposed over its greater area. Backs of hands and fingers greatly infiltrated, reddened and covered with crusts and fissures. Lower third of anterior surface of forearm much affected. Skin of penis thickened, almost leathery, and scaling; rhagades on under surface of penis. Scrotum infiltrated, reddened, crusted, fissured and excoriated. Marked infiltration with crusts and fissures around ankles; on proximal surfaces vivid reddening, with scaling and scratch marks. The patient complains of most severe itching on all the affected areas. Treatment: 5 per cent. Empyroform-lanolin-vaselin to the hairy scalp, face, neck and nape; powder for the rest of the body.

July 23d. The Empyroform was very well borne. Marked retrogression of the symptoms on the neck and face. Empyroform to all the affected areas.

July 24th. The patient feels much better. The itching has entirely disappeared. Objectively the scaling of the scalp has ceased, the skin of the face, neck and extremities is remarkably pale and much softer; there is no oozing, and all the fissures are entirely closed; the skin of the penis and scrotum is normal and pliable.

July 25th. The affection has entirely disappeared from face and neck. The skin of the extremities is normal, save only some very fine desquamation. The skin is smooth and soft everywhere, and shows not the smallest surface lesion. The itching has permanently disappeared. Discharged.

This history, which is typical of numerous others, speaks eloquently for itself.

In the markedly chronic forms of the eczematous disease, in which there is pachydermatous thickening, the shortness of the time required by the Empyroform treatment is as noteworthy as its good effect upon the disease. The most inveterate cases react with incomparable quickness to the application of the remedy.

But whilst the action of the drug was of notable excellence on eczemas in general, it was especially brilliant in those that had appeared on the site of a previous seborrhœa. We had occasion to treat eczemas of the most varied intensity and extent belonging to this variety of the affection, without failing in a single case to obtain remarkable results.

When the affection was confined to the hairy scalp, it is as a rule sufficient even in very marked cases to use the 5 per cent. salve for a few days. A similar medication was all that was required for the affection in its advanced stages on the face, trunk, at the flexures of the joints, or on the external genitals; and there were equally good results in cases in which the process affected almost the entire surface of the body.

We are probably correct in attributing the good results from Empyroform in this

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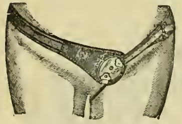

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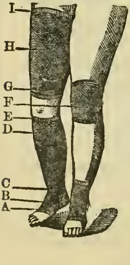

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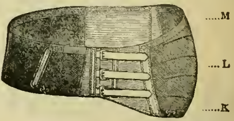

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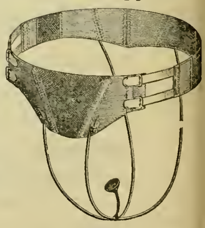

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Palatable Yet Effectual.

There is a wide-spread belief that physicians, as a rule, consider well founded, that cod liver oil is not only a remedy of decided power, but a food of very high value. Every physician knows, however, that a very large number of patients who should and doubtless would get much good from it cannot and will not take it. This is largely due to the fact that the ordinary preparations are so nauseating as to cause serious indigestive disturbances, while in many cases the stomach will not even retain them. It is notorious that the so-called "tasteless" preparations are indeed tasteless because they contain no cod liver oil, but there is a preparation that contains all the potent elements of cod liver oil in a form pleasant to the taste and agreeable to the weakest stomach. We refer to Hagee's Cordial of Cod Liver Oil with Hypophosphites of Lime and Soda. Eminent physicians pronounce it a triumph in modern chemistry, and prescribe it when cod liver oil treatment is indicated. In our hands results with it have been most satisfactory. — *Massachusetts Medical Journal.*

special variety of the disease to the happy combination of tar and formalin, which unites the reducing power of the former with the powerful antiseptic and disinfectant properties of the latter.

It is quite evident, also, that the localization of the eczema is not of much importance under the Empyroform treatment. Its effects are equally good in universal and in circumscribed cases. I need only add that in those chronic forms of the disease associated with enormous thickening of the integument usually seen upon the lower extremities, and in which it is desirable to obtain a keratolytic as well as a reducing action, the best results were occasionally obtained by using the drug in the form of a plaster. We found the Pick salicylic-soap plaster with the addition of 5 to 10 per cent. of Empyroform the best formula to employ.

An account of the action of the remedy upon other dermatoses will be reserved for future communications; we shall here only report briefly on its action in psoriasis. A number of the most varied forms of the disease were subjected to the Empyroform treatment. For the more superficial ones we used the 1 to 5 per cent. acetone solution, for the deeper ones the 5 to 15 per cent. Empyroform liniment. Those of the first class ran a very favorable course under the treatment, and were cured in a very short time. One case will serve as an example:

Th. K., workman, forty-two years of age, has had psoriasis for eighteen months; last attack began three weeks ago. Admitted June 14th, 1903. Scattered over the trunk and extremities are pin-head to penny sized psoriatic lesions, in places, as on the inner surfaces of the thighs, forming larger confluent groups. Moderate infiltration of all the lesions. Treatment: 1 per cent. Empyroform-acetone solution.

June 16th. The lesions have partly lost their scales. The more inflammatory ones have become much paler and flatter.

June 20th. Some of the efflorescences have entirely disappeared.

June 27th. Discharged cured.

The 5 to 15 per cent. liniment acted well in the more extensive cases with deeper infiltration, though naturally the treatment was more prolonged. We found that Empyroform was at least equal in efficiency to other tar preparations, and its advantages, especially the absence of odor, rendered it preferable to them.

We must not neglect to mention that Empyroform in the shape of the 5 per cent. salve and the liniment rendered us most excellent service in two cases of acute universal psoriasis. These and other psoriasis cases taught us anew the pre-eminent value of the remedy as an antipruritic agent.

We have also had favorable experiences with the drug in a number of cases of lichen urticatus, prurigo, pityriasis rosea and pityriasis versicolor.

Extensive as has been our employment of Empyroform, we have never noted any unpleasant by-effects from its use. The disease process itself was never unfavorably influenced by it, and there was never any noxious action on the deeper organs. In isolated cases the urine became very slightly darkened and contained traces of phenols; but there was never any albumin in it.

It is noteworthy, also, that we never saw a real tar acne develop from its use. At the most there were a few isolated follicular infiltrations, which retrogressed in the very shortest time without suppuration; and this in spite of the continued use of the remedy.

Though our investigations of the new drug are not concluded, we feel justified in saying that Empyroform is to be most warmly recommended for the treatment of dermatoses, and more especially for those of the eczematous variety. Our results are in accord with those of Sklarek, whose investigation at the Breslau University Dermatological Clinic (published in the *Therapie der Gegenwart*, July, 1903), were made almost simultaneously.

A Diagnostic Chart of Tumors and Pseudo-Tumors.

Battle & Co. have just issued a complete and unique chart on the above subject, compiled by Dr. Edward C. Hill, from standard works on surgery and pathology. The subject matter is divided into solid neoplasma (subdivided into benign and malignant growths) and true and false cysts. The general characteristics of each division are given, and their twenty-four classes, embracing over 100 varieties, are compared critically in columns under the following headings: Tissue, Topography, Number, Size, Conformation, Color, Consistence, Mobility, Sensibility, Surrounding Tissues, Occurrence, History of Growth, and Miscellaneous Points. Features of special differential value are emphasized by the use of italics. This chart shows almost at a glance for ready comparison all that could be learned in a diagnostic way from the perusal of hundreds of pages of ordinary text. It stands indeed to such books as an atlas does to a gazetteer. This very convenient and valuable compendium is at the command gratis of any and every practitioner of medicine who will take the trouble of writing a postal card to Battle & Co. 2001 Locust St., St. Louis.

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Nutrition in the Management of Intestinal Diseases.

By John A. Hale, M. D., Alto Pass, Ill.

No general practitioner can fail to appreciate the importance of intestinal diseases arising from imperfect or faulty nutrition. It has been reliably computed that of all deaths among children under two years of age, 30 per cent. have died from some disease due to this cause.

Unhygienic surroundings, such as bad air, impure water, and lack of personal cleanliness, certainly play no unimportant part in the causation of debilitating intestinal diseases. In cases of digestive derangement, not alone among children, but adults as well, the element of uncleanliness may, by perseverance, be eliminated while the one central point of contention should be the physician's warfare against the ingestion of improper food by older persons, and the injudicious feeding of infants by those who have them in charge.

It is almost impossible to enforce strict dietary injunctions. Grown people as well as children overload their stomach, more especially in summer time, with fruits and vegetables which are either over-ripe or not ripe enough. Intestinal irritation is the result of such practice.

The first symptom is a heavy, disagreeable feeling in the stomach, frequently followed in from twenty-four to forty-eight hours by vomiting. The disagreeable feeling increases in intensity to a distinctly painful griping sensation over the whole of the intestinal tract with a sensation of fullness in the rectum, which is not relieved by free action from the use of salts or copious injections, and the passages thus secured invariably contain food which has passed through the entire digestive tract only partially digested, and sometimes wholly undigested. Hemorrhoidal complications arise, and especially in cases among children do we frequently find that troublesome complication, prolapsus recti.

In this condition the whole of the intestinal mucosa is a fertile field for the reception and propagation of pathogenic microbes. Following in their wake we find one, or more often, a combination of those debilitating intestinal diseases which soon become chronic, and last at least during the summer.

Usually but a small amount of fecal matter accompanies the discharges which are generally muco-purulent and sometimes bloody. In the cases among infants or small children the discharge takes on a greenish color, a fetid, sickening odor, and remain acid in reaction. In adults and children alike, the flesh becomes flabby and the patient emaciated. If the stools are closely examined by the attending physician he makes a diagnosis of one of the many complaints, such as atonic gastritis, enteritis, choleraic diarrhea or entero-colitis.

Treatment, generally symptomatic, is instituted. The patient becomes better. Nutritives are administered regardless of time, quantity or efficiency, more especially during the absence of the physician. Relapse is the result. The purposeless potentiality of this nutrition is apparent. Friends deplore the patient's condition. The physician again seeks to remove the morbific material thus collected, and its concomitant danger from auto-infection, and to stimulate the tissue-building forces.

Sorry to say, his selection of stimulants and nutriment are not always appropriately suited to the secretory functions of the digestive system while in this condition.

The requirements to be met in either one of the various alimentary troubles after they have progressed beyond the point of microbic infection are three in number:

1. The germs must be destroyed; treatment for which suggests itself.

2. The rapid waste of body material must be checked, which is self-evident and needs no elaboration.

3. The unassimilated food passing through the alimentary canal must be assimilated, in order to sustain and support the patient and replace the wasted body material.

The third and last requirement is the hardest to be met, for if the food given does not assimilate, the question arises, "what will fulfill the requirement in the form of a suitable food?"

And just here, as pertinent to the immediate subject, let it be remarked, that the ingestion of the remedy to meet this requirement demands the strictest attention of the prescribed in every detail.

Many nutritives have been placed before the profession, and milk in various forms has been advised. Unmodified milk is more often indigestible, and sometimes toxic in its action upon the digestive tract. The casein of cow's milk will form an insoluble mass when acted upon by the gastric juice, and although this coagulum may be partially overcome by dilution with water or special predigestion, the character of the caseinogen is not changed, and coagulation into a compact lump or lumps by the action in these conditions.

A proper food should be concentrated, palatable, predigested, and contain a proper proportion of both animal and vegetable nourishment.

An experience with many cases and the trial of various predigested nutritives, has led the writer to rely upon only one of these prepared foods; although several have

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Listerine is a swift and sure destroyer of infusorial life; it prevents the various fermentations, preserves animal tissues and inhibits the activity, growth and motion of low forms of vegetable life: hence Listerine may be relied upon to destroy the activity of the living particles which constitute contagion whenever brought into intimate contact therewith.

For diseases of the uric acid diathesis: **Lambert's Lithiated Hydrangea**

A remedy of acknowledged value in the treatment of all diseases of the urinary system and of especial utility in the train of evil effects arising from a uric acid diathesis.

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proven themselves beneficial in many cases, none have seemed to meet all of the requirements nearly so well as Trophonine, which consists of beef, nucleo-albumen and the gluten of wheat. It has proven itself in all cases easily retained, easily assimilated and potent in nutritive value. One important feature in the administration of trophonine as a food is that while it may be given as a supplementary diet where small quantities of milk are digested, it may alone be relied upon to sustain and nourish the patient; and when so administered it is all absorbed and leaves no irritating resideu as a foreign body in the already sorely distressed digestive canal.

Its ever increasing utility, both chemically and physicalle, and never failing virtue in the restoration of the disordered digestive functions, commends it as a reliable, efficient remedy.

Medical Association Journal's Troubles.

The rapid and phenomenal success of the journal of the American Medical Association has hurt every other journal in the country more or less. There has been a growing dissatisfaction amongst medical editors for some years, and efforts have been made to have the advertising rates of the Association Journal increased so as to restrict its business, and not hurt its smaller competitors so badly.

Lately a number of journals have attacked the Association methods openly in their columns. At the time this journal was started there were grave doubts as to its expediency, and some of the older and wiser members opposed the proposition. It is now claimed that the Association is improperly and unprofessionally accumulating a large amount of money, and that there is a growing temptation to use this surplus in the manufacturing of antitoxins, specialties, and in selling tablets, or in subsidizing some favorite preparations.

Some contend that no subscriptions should be solicited outside of the Association membership, and others that only enough advertising should be taken to make up the deficiency. There is also considerable rivalry in regard to the editorial management, and a number of bright doctors think they could conduct that department better than it is at present.

As a matter of fact no editor has been able to hold this position very long, and it is intimated that several of them have suffered seriously with their health on account of the laborious duties and unnecessary friction. As the older journals made the American Medical Association, and by their liberal encouragement and support in the past, have sustained and developed it, they naturally object to unfair competition and expect liberal and co-operative treatment in the future.

A prominent monthly demands that the Association Journal answer the following questions, and if this open agitation continues, which is most probable, there will be an opportunity for some interesting discussions at the next meeting of the American Medical Association.

Let the Association *Journal* answer these questions:

1. What are the necessary expenses of the Association?
2. What are the necessary expenses of the *Journal?*
3. What is the actual income from members of the Association?
4. What is the actual income from subscribers not members?
5. What is the actual income from advertisements?
6. What disposition is made of the balance of the funds?
7. Why does the Association enter into competition with other medical journals, if it is not really necessary and may do harm?

—*Medical and Drug Advertiser.*

A Contribution to the Treatment of Burns

(Abstracted from a Feuilleton in the *Medicinische Woche*, August 31, 1903.)

In "Feldscher," a Russian medical journal, Dr. Th. S. Wassiljew records a case of extensive burns which is of interest in various ways. In the first place it seems to disprove the generally accepted view that such cases are hopeless when one-third of the surface of the body is affected; secondly, a brilliant cure was achieved in this case; and, thirdly, the case, though tragic, gives a vivid picture of Russian peasant life.

The patient is a shepherd, aged 32, of small stature and normal strength, humpbacked and mentally weak. While herding his flock one day a pregnant and littering sheep went astray. The owner, a peasant's wife, upbraided him in no measured terms, and vociferously insisted that he must find the lost sheep under all circumstances. The poor fellow wandered around in vain all day and continued his search during the night, at last succeeding in finding it with four newly-born lambs. The proprietress was naturally overjoyed, and rewarded him with a bottle of fire-water, to which the shepherd of course immediately began to make love. As he was thoroughly chilled by his ramblings through mud and mire in the cold autumn night, he built himself a log-fire and laid down alongside in order to dry his clothes and warm his stiffened limbs. The whiskey he had

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"I can frankly say Antiphlogistine has been very satisfactory and it has taken the place of the old flax-seed poultice, where it would be impossible to apply the latter, especially for those patients who attend to business during treatment. In lymphangitis, suppurated buboes and deep-seated inflammation, Antiphlogistine has always given excellent results."

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imbibed took effect, and he was soon in a deep slumber.

In the morning he was rudely aroused by the flames which licked up his trouser-legs and were beginning to roast him. In horrible agonies he tore off his clothes, assisted by a peasant who happened to notice the disaster.

When brought to the Zemster Hospital, some distance away, he was in a shocking condition. About half of the trunk, i. e. the chest and abdomen, penis and scrotum, and the fingers of both hands were burnt. In patches the epidermis was raised by collections of serous liquids, in other places it was hanging down in shreds. The patient suffered fearfully. Temperature varied between 102 and 104 deg. F. At least one-third the surface of the body was burnt, so that the patient's life seemed in grave danger.

Treatment consisted in soothing inflammation and pain with cold compresses of solution of subacetate of lead. Xeroform (Tribromphenol-Bismuth) a yellowish powder possessing a slight phenol odor, but entirely tasteless, was then applied. Xeroform possesses great desiccant and deodorizing powers, inhibits pus formation and stimulates granulation. It therefore seems more and more to displace the toxic and evil-smelling iodoform.

In my case I used it as a 5 per cent. vaselin salve. It was applied on large pieces of gauze and the dressing renewed daily. The patient began to feel well and the pain ceased. Wound-fever, however, persisted for some time. At first suppuration continued, so that the compresses were soaked with pus and patches of burnt skin adhered when they were removed. Soon the epidermis and parts of the corium detached; the burnt surfaces became raw and bleeding, being in spots obscured by particles of corium. After about two months everything was clean, suppuration had disappeared and healing progressed rapidly, though places which had been most exposed to the flames of course cicatrized more slowly. The strength of the Xeroform-vaselin salve was therefore raised to 10 per cent, which noticeably hastened the process. After about four months almost all the wounds had healed.

The beneficial action of the Xeroform is chiefly due to its great desiccant and antiseptic properties, which lessen the secretion, cleanse the burnt surface and promote growth of the epithelium. Bleeding was noticeably less than in cases in which other salves were used. In scalds in which the corium has not been injured, marvelously rapid effects can be obtained with a 10 per cent. Xeroform ointment, healing being complete in a few days.

The Bronchial Tonic Eliminative at the New Hampshire State Hospital.

Reported by Charles S. Walker, M. D.,
Concord, N. H.

Fitchmul, the original formula of the late A. H. Crosby, M. D., has served a useful purpose at the New Hampshire State Hospital. The preparation is of especial value in all cases of bronchial irritation. It has been tried in all classes of cases where there was an acute inflammatory condition of the mucous membrane—from a severe cold to a case of bronchial pneumonia.

Case I.—A man somewhat debilitated in his physical condition was taken suddenly with a severe cold, temperature 102 degs., hurried respiration, rapid pulse—all the characteristic symptoms of broncho pneumonia. The patient was, of course, placed in bed, bowels were kept freely open and drachm doses of Fitchmul were given every three hours and continued for several days. The rales became less intense in character and the patient made an uneventful recovery.

Case II.—Mrs. ——, 45 or 50 years of age, developed a temperature of 101 degs., hurried respiration, cough, pain in limbs, etc. These symptoms appeared in the early evening very suddenly, as the patient had complained of nothing through the day. Drachm dose of Fitchmul was prescribed every two hours. The following morning the temperature had returned to normal, pain and cough had abated; so it is very evident that a case of la grippe and possibly pneumonia had been alleviated.

Case III.—Male, age 50, severe gastric disturbances and gastric ulceration, with slight hemorrhage, has had a severe cough for some months, contracts colds very easily, has raised some blood on expectoration. Physical examination shows a possible cavity formation. Drachm doses of Fitchmul were prescribed. The patient claims great benefit derived from the drug. Many other cases similar in character could be mentioned.

The ingredients of Fitchmul are so skillfully mixed that the patients invariably take it with pleasure.

In prescribing the products of Manufacturing Pharmacists, we should be guided to a great extent by the business standing of the manufacturers. No other house in the South or West has a better reputation for strict integrity than the Robinson-Pettet Company, Louisville, Ky. We do not hesitate to recommend the preparations advertised by them on page vii, this issue.

ALL ADMIT that RESINOL OINTMENT is the best local application for Eczema and kindred skin diseases, and as a dressing for burns and other traumatic inflammations it is simply superb. The itching and burning of Pruritus Ani, Pruritus Vulvae, Proctitis, Itching and Inflamed Piles, Marginal Eczemas and Fissures, yield to its soothing influence as if by magic.

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Clinical Reports to Physicians

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Mixed Infection in Pulmonary Tuberculosis.*

By Dr. H. E. Stroud, Phoenix, Arizona.

Considering the frequency with which mixed infection occurs in the course of pulmonary tuberculosis and the gravity it adds to the disease, it is a matter of surprise that the literature on the subject is so meager, and what I have to offer is mostly my own observations and such fragments as I have gleaned from medical journals. I take the stand that pulmonary tuberculosis is that condition of the lungs where living Bacilli tuberculosis are present and active. In other words, there is no tuberculosis without the presence of this bacillus. It has been abundantly proved that tuberculosis is seldom inherited, the most frequent mode of infection being by inhalation, and the germs once introduced into the human system no man can foresee the outcome in any individual case. Thus a high authority says: "the cases we expect to get well go down and die, and those in whom we see no hope become living monuments to the men of more caution in prognosis." The classification of pulmonary tuberculosis is now as simple and complete as it can be made, thus: miliary, caseous, fibrocaseous and, lastly, fibrous. I believe, and am supported by good authority, that it is not an accident but is due to the presence or absence or kind of micro-organisms present that influences the form that each case presents.

Dr. Sata, a noted Japanese physician, says, "the influence of mixed infection on the tuberculous process is very great, the most important symptoms being high fever, sweating, abundant expectoration, rapid loss of weight and strength, and a tendency to broncho-pneumonia.

The principal micro-organisms of mixed infection are the streptococcus, staphylococcus and pneumococcus, and others, as the common bacillus of putrefaction, but in all the forms of mixed infection the streptococcus is the most common and the most injurious.

I believe authorities generally agree that a fever from pure tubercular infection never exceeds 100.5 degs., and any excess of this points to the presence of mixed infection. It is well understood that the system may successfully combat one microorganism but if others are introduced serious symptoms develop. It is not often we in this section have an opportunity to observe the whole course of pulmonary tuberculosis for the reason the disease is rare with residents of Arizona, and cases that are sent here are usually too far advanced to admit of more than temporary improvement. But in the few I have been able to watch through the course of the disease, I have learned the absence or presence of the streptococcus is a very certain guide as to whether the patient will recover or not, and the very best symptom that I can bring about is a diminution in the number of streptococci. The question with me in every case is how can this best be accomplished.

The general treatment of pulmonary tuberculosis resolves itself into rest, the highest possible nutrition, the best climatic condition and medicine and medical supervision. It is stated these are of equal importance. Certain it is that a tubercular patient who is running a fever should not work; in fact, he should be in bed while the temperature is above 99 deg. It is as certain suicide to work with a fever as the gun-route. Guns miss fire oftener than fever cases get well without rest. It is obvious that the highest possible nutrition must be maintained, if the system is to throw off the disease. The indication is clear for the largest quantity of nutrition with the least digestive energy and this is best obtained from meat, eggs and milk. The ancients fed their patients because they noted the improvement that followed a generous diet. We follow their lead, but we now know the histology and pathology of the disease in question. If the Bacilli tuberculosis find lodgment in a suitable soil the irritation of its presence causes a deposit of white blood corpuscles and connective-tissue cells in such a way as to form a tumor the size of a millet seed; this is a tubercle. It contains neither blood vessels, nor air-supply, and hence cannot remain stationary long, it either undergoes the destructive process of caseation and breaking down or the conservative and healing process of fibrosis, hence the terms caseous, fibrous and fibrocaseous are used to indicate which of these conditions predominate.

Whatever part of a lung is once destroyed can never be renewed. A cure in tuberculosis means that the disease has stopped spreading to healthy parts of the lung and the microorganisms have been destroyed by phagocytosis. If the system is to accomplish this it must not only have nothing else to do but must be supplied with the highest possible nutrition. All phthisiotherapeutists now advocate fresh air or, in other words, "the open air treatment," and this, as Hiller says, is no passing fad, although no one now claims that any air is a specific for tuberculosis. The question is in what climate can this best be carried out? Knopf says, "the best climate for a consumptive is the one which permits him to remain out-doors more and longer at a time than anywhere else—the one having the

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*Read before the Arizona Medical Society at Phoenix, Ariz., May 27 and 28, 1903.

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most sunshine, the least rainfall, the lowest relative humidity, the least wind movement and the least difference between day and night. Man is part animal and part intellectual being. It is the animal part of man that is sick, and the nearer we can copy the animal mode of life the better will our results be. All animals are migratory in their habits, that is, they journey south in winter and north in summer, and also seek the higher altitudes in summer and the lowlands in winter. The nomadic life has yielded results unattainable by other means.

What might be called the discovery of the "open air treatment" has resulted in some singular opinions. To judge from some articles in print all one needs to do to cure tuberculosis is to sleep with the "window open." Some claim that one air is as good as another. As a matter of fact, atmospheric air is the same the world over, the chief difference being in the temperature, the degree of moisture and the pressure at different altitudes. Air is constantly moving and purifying itself. The foul air that to-day hangs over the swamps of Louisiana may in a week be the light and nearly aseptic air of this section. The icy blast that froze thousands of cattle and sheep in Montana reaches us as a cool and refreshing breeze. The sun shines through air without warming it. The heat of air comes from the earth over which it moves. Nothing is so thirsty as air; it absorbs moisture from everything and there can be no relatively dry air without the ground over which it moves be dry.

Statistics show that tuberculosis is most common in damp countries regardless of heat or cold. Cuba and Porto Rico abound with the disease, and our Northern Atlantic seaboard is known as the tuberculous zone. Contrast the 25 percent mortality of Massachuseets with the three percent of Colorado, New Mexico and Arizona. To my mind, providence in her infinite wisdom created this vast area as a natural sanitarium for those predisposed and afflicted with pulmonary disease. Colorado and New Mexico represent all that is desirable during the summer, while the low lands of Arizona are nearly ideal. Dr. Solly, in his Medical Climatology, says of this part of Arizona: "The climate of the Salt River Valley is unique. While there are other good climates, there are none presenting its combination of conditions, which are the lowest relative humidity, the slightest wind movement and the highest annual temperature in combination. No other region even approximates it."

From the U. S. Weather Bureau at this city I learn that there were but two days in the whole of last year in which the sun did not shine. The rainfall for the year was only 7$\frac{1}{8}$ inches There were more hours of sunshine in this section than anywhere in the United States. Is it possible to imagine more suitable conditions for the best of all modes of living "tent life?"

The benefits of constantly breathing fresh, pure air is, first, ventilation of the lungs (called by Dr. Abrams, of San Francisco, pulmonary lavage) but, chiefly, are the benefits of sunshine and fresh air shown in the improvement of the nervous system and blood. An improved blood condition means improved nerve impulses and, in turn, means improved appetite, digestion and assimilation, and these, if the disease has not become of too great extent, may mean a cure.

The true role of drugs in tuberculosis is to correct symptoms such as cough, fever, digestive disturbances, etc., and those directed to destroying the microorganisms that are the cause and result of the disease. To go into a consideration of these would be impossible. Their name is legion; but I respectfully ask if any of them have come up to your expectations? From the best sanitariums in Europe and America come reports of but thirty and thirty-five percent of cures. This means that sixty-five or seventy out of every hundred are to die. The unscrupulous have availed themselves of this frightful mortality to flood the world with "specifics," that in some cases have been worse than useless.

I wish to refer back to the question of mixed infection, and I think you all will agree that the presence of the streptococcus with the Bacillus tuberculosis adds the greatest gravity to the case. In fact, every bad case I ever remember treating showed numbers of streptococci in the sputum. One of the most successful physicians in Asheville, N. C., told me when I was there two years ago that where the Bacilli tuberculosis killed one, the streptococcus killed five hundred. It was to investigate this question that caused me to put in what some of you have been kind enough to say is the most complete laboratory in the territory. How to destroy the streptococci has been constantly in my mind for the past two years, but without any definite solution. Some months ago I received some literature from Frederick Stearns & Co. regarding their Streptolytic Serum and, as a most excellent case for trial had just come in, I decided to try the serum. The case was a lady, age 27, with the usual symptoms of pulmonary tuberculosis—fever, cough, expectoration and rapid pulse. I made a sputum examination, and to my surprise it simply swarmed with streptococci, the largest and longest I have ever seen. The

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next day I commenced to use the serum, and 20 c. c. of Streptolytic Serum was given at the first dose and 10 c. c. was given each day for a week. At the end of this time I could see no improvement, and we decided to abandon its use. Happily for myself and the lady, Mr. H. A. Stearns, of the firm of Frederick Stearns & Co., visited Phœnix at this time, and from him I learned that the serum must be used until all the streptococci had disappeared from the sputum, but that so far no case he had reports of had required more than thirty injections. Thus encouraged, we recommenced its use and at the end of thirty days no streptococci were to be found. I first thought I had a case of pure streptococcus infection, but occasionally I found a Bacillus tuberculosis in the daily sputum examinations that were made.

This is the most satisfactory case of tuberculosis with profound mixed infection I ever treated. There was very little gain in weight while the injections were being given, but now the patient's weight has risen from 108 to 130 and she considers herself well.

The next case was that of a medical student, but the symptoms were so like the first case it is needless to describe them. However, his temperature reached 105 deg. every evening. After thirty injections it did not exceed 100.5 deg. while I had him under observation.

As the season was about over, these were the only pulmonary cases in which I had an opportunity to use the Streptolytic Serum, but a Mexican lady in the ninth day of pneumonia and four days after delivery was given up to die by the attending physician and I took charge of the case. I cannot imagine a more desperate case of puerperal fever, and in this case I used Streptolotic Serum with the happiest results.

It may be objected that these are too few cases to prove anything, but a few cases carefully studied are more instructive than many carelessly passed by. I do not say we have in this serum a cure for tuberculosis, the makers do not claim this, but if we have in it a remedy that will remove the streptococcus from our tubercular cases or neutralize its effects we have taken a long step in the right direction.

In conclusion I will say, no more serious question has ever confronted the world than tuberculosis, and especially is this so in America where life seems more valuable in this land of freedom and boundless possibilities. But it is a matter of history that no serious question has ever confronted the American people that the American people have failed to arise equal to the emergency. I believe they will in this case, and whether a cure be found in electricity, in chemistry or serotherapy, may God grant it may come in our day.

Glyco-Thymoline.

By Chas. A. Stedman, M. D., Cleveland, O.

Gentlemen :—Upon request I will give my experience in the use of Glyco-Thymoline in gynecological practice as injection both vaginal and intra-uterine. I will say further, no physician who does obstetrical or gynecological work should forget this remedy where vaginal douches are indicated, and especially where there is profuse leucorrhœa or any inflammation of the genital tract.

The following case will show results I have obtained with Glyco-Thymoline :

Mrs. R., case of endometritis, inflammation extensive ; entire vaginal tract inflamed and tender ; os ulcerated to slight degree ; great deal of pain in lumbar region ; profuse leucorrhœal discharge ; patient extremely nervous.

Treatment : Tampons of Glyco-Thymoline and glycerine equal parts were applied and left in situ twenty-four hours. After removal of tampon, I gave patient a vaginal douche of a solution of Glyco-Thymoline and water, (2-7). Pain and tenderness rapidly subsided, leucorrhœa diminished, and after three months' use of tampons I instructed her to use Glyco-Thymoline douches three times a week, which were continued for some time. All symptoms of further trouble have ceased and patient considers herself well.—*New York Medical Journal, Sept. 12, 1903.*

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For further information address the Superintendent, St. Peter's Hospital.

Experience with Iodipin.

Editor Merck's Archives:

I wish to report my experience with iodipin (25-per-cent) in two hospital cases:

Case I—Aneurism of ascending aorta, large and bulging, with very tense and heavy pulsation. The history gave luetic origin. Potassium iodide was being used, but interfered very much with the stomach. I used 20 min. of iodipin (25-per cent.) hypodermically, once a day for about three weeks, when my term of service at the City Hospital ended. The force of the circulation was reduced and the patient was much more comfortable while the iodipin was being administered; he was a city case, and I could not follow him up. No cure could be expected.

Case II—Chronic syphilis. Patient was taking potassium iodide, 45 grn., three times daily. This, however, produced severe gastric disturbances, the chief symptom being epigastric pain; there was also nausea, coated tongue and loss of appetite. I changed from potassium iodide to 20 min. of iodipin (25-per-cent.) hypodermically, daily. In a week all the gastric symptoms had cleared up and the luetic symptoms were well under control. The patient left the hospital in good condition before my term of service ended.

There were other cases in which I should like to have used it, but the hospital authorities would not furnish it. I used in this way ¼ pound of the drug. I am very much impressed with it, and believe it can be used when the iodides produce too much irritation. By pushing the dose to the limit the system may be saturated with iodine much more rapidly than with any other method of administration.—J. T. Moore, M. D., Hamline University, Minneapolis, Minn.

Ichthargan in Gynecological Affections.

Dr. Ibarigia has used Ichthargan (ichthyol-silver) in 203 gynecological cases, as 1-per-cent. solution in glycerin and applied as vaginal tampons, and in 2 to 3 per cent. aqueous solutions within the uterus. The details of nine cases are given, to illustrate the efficacy of the treatment, and the latter is explained by the high silver content (30 per cent.) of ichthargan as compared with the other organic silver preparations, by the drug combining the siccative action of ichthyol with the bactericidal effect of silver, and by its penetrating to the depths of the tissues and there manifesting its properties. Never were any untoward effects observed, though a 5-per-cent. solution was employed in one case.—Deut. Med.-Ztg., xxiv, No. 49.

The Advantages of Combining Remedies.

John Moir, L. R. C. P. & L. R. C. S. Ed., in "*The Therapist*," London, says: "Latterly I have been using heroin very extensively in tablet form in combination with antikamnia, and found the combination to act charmingly, both for relieving pain and in procuring comfortable, restful sleep, so very desirable and necessary after sleepless periods, caused by a protracted, irritable cough. The soothing rest in these cases was also characterized by a light but well marked fall in temperature; but the greatest benefit of all in this treatment is that, although the distressing frequency of the respiration was reduced, it was stronger and heavier and less spasmodic, with a beneficial effect upon the heart at the same time. The tablets I use contain antikamnia 5 grs., heroin hydrochlor 1.12 gr , and were given every two, three or four hours, in cases of cough, bronchitis and respiratory affections generally, according to the severity of the symptoms, but usually one tablet every three hours. I found that the respiration was rendered easy, the expectoration was loosened without difficulty, and sleep was more readily obtained than with morphine, and unlike morphine there were no after-effects. I have, personally, been taking antikamnia and heroin tablets three times a day for an irritating cough, with occasional inclination to breathlessness; so that I have every reason to be thoroughly satisfied with them as sedatives and calmatives."

Not much less than four years ago there appeared on the market a distinct novelty in the form of an antitoxin container, known as the Syro-Bulb, by means of which the antitoxin could be injected directly from its own bulb into the patient without transference to a hypodermic syringe. The success of the Syro-Bulb and Stearns' serums is well known to our readers, and it is hardly necessary to follow the history of the Syro-Bulb through three yeers of commercial opposition which finally ended in its principal opponents' abandoning their position—and placing on the market a device closely resembling the Syro-Bulb in external features. The Syro-Bulb is the pioneer of syringe-containers, and for nearly three years was the *only* one on the American market. It is still by far the best of them all, embodying many advantages not to be found in others while no other possesses a single advantage over it. In order to make sure of getting the genuine it is well to look carefully for Stearns' name on each package.

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Euquinine in Influenza and Headache.

Dr. H. Levy, of Berlin, reports his experience with euquinine in five cases of influenza, two cases of periodic cephalalgia, one of supraorbital neuralgia, and two of chloro-anemia. In two of the grip cases one dose, 1 Gm. (15 grn.) was given each, which reduced the fever by 2 deg. and by 1 deg. C. (3.6 and 1.8 deg. F.) respectively; in the third case this dose had to be repeated in four hours to effect a reduction of temperature amounting to 1.5 deg. C., and then transient tinnitus was caused. The anti-pyretic effect continued for four or five hours and was accompanied by diaphoresis without any chills. In the remaining two cases of grip, characterized by considerable pyrexia and violent muscular pains and headaches, 0.5 Gm. (7½ grn.) of equinine was given at three-hourly intervals for two days. The drug was well borne and free from accessory effects, was mildly antipyretic, and had a very beneficial influence on the pains; it was at least fully equal to any other remedy in vogue in the treatment of influenza. In the two cases of periodic headache, 1 Gm. doses of euquinine moderated the pains in two hours, and, if administered four hours before the expected attack, the latter could be averted. In the neuralgia case the drug also had a favorable effect. As a tonic in the cases of anemia and chlorosis associated with symptoms of neurasthenia the euqinine was given in doses of 1.2 Gm. (3 grn.) twice daily for three weeks, and the results were very satisfactory.—Deut. Praxis, 1903, No. 5.

Some External Uses for Ichthyol.

A writer in the Surg. Clinic (ii, No. 6), descants as follows: The surgeon and gynecologist who uses ichthyol intelligently has one of the most generally useful and reliable agents in the whole remedial list. Diluted in various proportions with water, glycerine or oils, it serves as a solution for spray, douche, irrigation, or to keep moist the dressing of dirty wounds or sores. Mixed with lanum, lard, petrolatum, or simple cerate, it makes one of the most effective ointments known. For gynecological use, it is applied to the cervix on tampons mixed with glycerin, iodine, boroglyceride, and hydrastis, or, in very severe inflammatory cases, it can be used reduced one-half with glycerin or water. Nothing will stop the usual cervical diseases so speedily, and pruritus vulvœ and ani yield to it in three days. Acne, and most skin troubles, are remarkably benefitted or cured by its frequent application in varying strengths; and acne indurata, one of the most troublesome things the doctor has to treat, can be cut short by the following:

Ichthyol	2 dr.
Ether	1 oz.
Brandy	6 dr.

Keep well corked, and apply at night, washing off the face with hot water in the morning.

If the physician will take the trouble to open the acne pustules with a small, sharp lance, and apply to each opening—after evacuating the contents—a drop of hydrogen peroxide and let the patient use the above application at home, the worst case will be satisfactorily cured. In these cases it is well to give 3 drops of ichthyol every three hours, in capsule or pill.

Germ Destroying and Nerve Soothing.

The following excerpt from an article in the "Virginia Medical Monthly," by Stephen J. Clark, M. D., No. 66 W. 10th Street, of this city, plainly outlines the useful combination of two leading remedies in materia medica:

"Binz claims specific antiseptic powers for quinine; other writers are in accord with him on this point, and report good results from large doses in septicæmia, pyæmia, puerperal fever and erysipelas. It is a germ destroyer of the bacilli of influenza (la grippe). Antikamnia and quinine tablets will promptly relieve in this disease. Quinine is a poison to the minute organism, sarcina; and antikamnia exerts a soothing, quieting effect on the nerve filaments. A full dose (two five grain tablets) of this remedy will often arrest a commencing pneumonia or pleuritis. These tablets are also useful in the typho-malarial fever of the South—particularly for the hyperplexia—both quinine and antikamnia, as previously said, being decided fever reducers. They are likewise most valuable in cases of periodical attacks of headache of nondefined origin; of the so-called 'bilious attacks;' of dengue; in neuralgia of the trigemini; in that of 'ovarian catarrh;' and, in short, they are effective in every case where quinine would ordinarily be prescribed and without the 'ringing' which generally accompanies the administration of quinine alone."—New York Medical Journal.

Ichthalbin as an Intestinal Disinfectant.

During the past two years Dr. Schafer, prison physician at Munich, has made a study of ichthalbin in the capacity of an intestinal disinfectant. He used it in about 150 cases—embracing chronic digestive disturbances owing to the prison diet, epidemic diarrheas of non-tubercular origin, and tubercular diarrheas. Of the first-named category 40 out of 50 cases were considerably improved, showing that ichthalbin can lessen the irritative state of the intestinal tract even under unfavorable conditions as regards diet. The remedy was given in

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doses of 1 to 2 Gm. (15 to 30 grn.) three times daily, and in the vast majority of cases brought about a cessation of the diarrhea and its accompaniments in from two to seven days. Five cases are described in detail.

In the epidemic (summer) diarrheas, ichthalbin in doses of from 1.5 to 2 Gm. (23 to 30 grn.) thrice daily promptly brought relief, and effected a cure on the average within four days, but often much sooner.

In primary intestinal tuberculosis 1.5 to 2 Gm. of ichtholbin three or four times daily dispelled the pain completely, on the average, in four days, and arrested the diarrhea in twelve days; the range of duration of the latter have been from 8 to 24 days in the cases described at length.

Based on his wide experience, the author considers ichthalbin an excellent intestinal disinfectant and siccative, perfectly harmless in every particular even on prolonged use.—Wien. med. Presse, 1903, No. 18.

Mixture Dobell-Pynchon.

Mixture Dobell-Pynchon, when suitably diluted, by adding one ounce thereof to a pint of boiled water, forms an unexcelled cleansing solution for the nasal passages which is to the mucous membrane of these passages an agreeable an unirritating application and much the same as is a fine grade of Castile soap the best cleansing agent for use upon the skin.

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The correct use of Mixture Dobell-Pynchon for the purpose specified was fully described in a continued paper in the "Medical Summary" for October, November and December, 1901, by Dr. Edwin Pynchon, Professor of Rhino-Laryngology and Otology in the Chicago Eye, Ear, Nose and Throat College. The Wm. S. Merrell Chemical Co., of Cincinnati, have placed upon the market Mixture Dobell-Pynchon in fourteen-ounce bottles and will, upon request, send to any physician literature relating thereto, including a reprint of the above mentioned paper by Dr. Pynchon.

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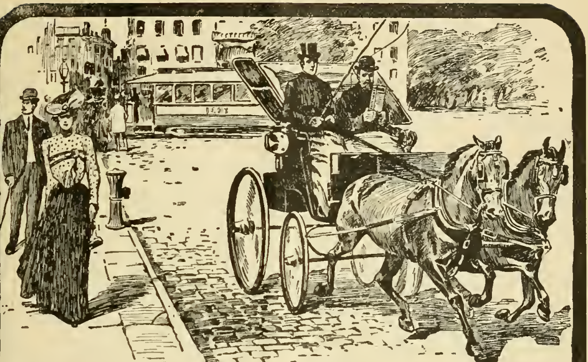

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Clinical Notes on Dysemia.

By Louis J. Gravel, M. D., Physician-in-Chief to the Hotel Dieu Hospital and Chief of the Laboratory, Montreal, Canada.

The word anemia is a misnomer and serves to perpetuate an erroneous idea of the conditions to which it is applied. It had its origin at the time when scientific medicine was in its infancy; before the microscope and other instruments of precision had elucidated the physiology and pathology of the blood and blood-forming organs. In those days the pallor of the skin and mucous membranes was attributed to "a diminution of the amount of blood," and even at the present day there are physicians who still share in this fallacy. From a pathological standpoint, the chief features of the so-called anemic state are the morphological and chemical changes in the blood—its qualitative deterioration. It, therefore, has been suggested that the term dysemia (bad blood) would more closely describe the conditions present. However, a word which has the sanction of usage for so many years cannot be easily displaced, and will probably long survive in medical nomenclature.

There is only one criterion on which to base a diagnosis of dysemia, and that is the changes in the blood. The other symptoms to which much significance was formerly attributed—pallor of the skin and mucous membranes, rapid pulse, and palpitation, general weakness, vertigo, and the like—are of doubtful value, since they are present in various conditions in which the state of the blood is normal. Thus, for instance, they may result from purely psychical causes—fear or anxiety—or occur in the course of chronic digestive disorders, or neurasthenia.

To estimate the degree of dysemia the diminution in the percentage of hemoglobin is of the greatest importance, and this may range within wide limits, even to one-fifth of the normal proportion. Next in importance is the reduction in the number of red blood corpuscles, which, however, is perceptible only in the more marked cases. In the severe types of the disease, reductions to 50 per cent. are quite frequent. There is also a change in size and shape of the red blood cells, known collectively as poikilocytosis, in the pronounced form of dysemia. Usually the corpuscles are diminished in size and their shape becomes irregular; there may be granular deposits in their protoplasm. Sometimes there may be found in the blood the so-called normoblasts, which are nucleated red cells, resembling those present in the red bone marrow. The latter have been specially observed in dysemia, following profuse losses of blood, but in any case are of no significance.

These remarks apply only the simple types of dysemia and not to the progressive pernicious forms, characterized by changes in the blood-forming tissues. As pointed out by Ehrlich and Lazarus in an excellent article on this subject, to which I am indebted for much information, the radical difference between the simple and pernicious varieties of dysemia is that in the former the regeneration of blood takes place in a physiological manner, while in the latter it reverts to the embryonic type, as shown by the presence of foreign elements. The majority of cases of simple dysemia are secondary to diseases attended with malassimilation, tissue waste, hemorrhages, and profuse discharges, while it is important to remember that it is often due to a condition of autotoxemia, or to the absorption of toxins generated by bacteria. It is, therefore, not enough to make a diagnosis of dysemia, but the primary cause should be sought and removed if possible.

The treatment of the changed condition of the blood consists in the adoption of an appropriate regimen—a nutritious dietary, fresh air and sunshine—in connection with the administration of iron supplemented occasionally with arsenic. Hydrotherapy is a very valuable auxiliary in some cases. The patient should rest as much as possible, and in severe cases should take a vacation in the mountains. Long before modern hematology had its beginning, iron was administered on empirical grounds, and all that modern medicine has contributed to the therapy of dysemia is the introduction of ferruginous compounds, which are not only superior in efficacy to those in former use, but free from their objectionable features. The chief disadvantage of the older iron preparations were their disturbing effect upon the digestion, their tendency to produce constipation, and their destructive action upon the teeth. It is a notable achievement of pharmaceutical chemistry to place at the physician's disposal organic ferruginous compounds, which approximate closely in composition to the form in which iron is contained in the red blood-globules. The most prominent preparation of this kind is Pepto-Mangan (Gude). This consists of iron and manganese in the form of peptonates, which, representing albuminous elements in their last stage of digestion, are immediately absorbed and assimilated, without undergoing any previous transformation in the gastrointestinal tract. The presence of manganese in combination with iron in Pepto-Mangan is based upon

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the fact that both of these elements are found associated in the red globules.

Having had my attention directed to this preparation through the reports of leading authorities in European and American journals, I subjected it to a thorough test in the Hotel Dieu Hospital, Montreal, and have briefly recorded here the histories of a number of typical cases in order to demonstrate its efficiency in dysemia, as shown by the rapid increase of the hemoglobin percentage and number of red blood-cells.

Case I.—A woman, aged 25 years; dysemia. Time of administration, 30 days. First count, 3,376,400 red corpuscles to the c.mm.; second count, 4,400,300 to the c.mm. Hemoglobin: first examination, 51 per cent.; second examination, 70 per cent.

Case II.—A girl, aged 20 years; dysemia. Time of administration, 30 days. First count, 2,630,200 red corpuscles to the c.mm.; second count, 3,970,000 to the c.mm. Hemoglobin: first examination, 40 per cent.; second examination, 60 per cent.

Case III.—A man, aged 25 years; dysemia following typhoid fever. Time of administration, 30 days. First count, 2,500,200 red corpuscles to the c.mm.; second count, 3,950,000 to the c.mm. Hemoglobin: first examination, 39 per cent.; second examination, 50 per cent.

Case IV.—A woman, aged 39 years; dysemia. Time of administration, 30 days. First count, 2,750,400 red corpuscles to the c.mm,; second count, 3,500,000 to the c.mm. Hemoglobin: first examination, 35 per cent.; second examination, 60 per cent.

Case V.—A woman, aged 35 years; dysemia, following miscarriage. Time of administration, 30 days. First count, 2,800,000 red corpuscles to the c.mm.; second count, 3,300,000 to the c.mm. Hemoglobin: first examination, 33 per cent.; second examination, 45 per cent.

Case VI.—A young girl, aged 17 years; dysemia, following typhoid fever. Time of administration, three weeks. First count, 2,495,270 red corpuscles to the c.mm.; second count, 3,300,200 to the c.mm. Hemoglobin (percentage of normal amount): first examination, 35 per cent.; second examination, 45 per cent.

Case VII.—A young boy, aged 16 years; dysemia, following typhoid fever. Time of administration, three weeks. First count, 3,670,000 red corpuscles to the c.mm.; second count, 4,600,300 to the c.mm. Hemoglobin (percentage of normal amount): first examination, 40 per cent.; second examination, 65 per cent.

Case VIII.—A man, aged 30 years; dysemia, following amputation of the leg. Time of administration, three weeks. First count, 2,360,400 red corpuscles to the c.mm; second count, 3,500,200 to the c.mm. Hemoglobin (percentage of normal amount): first examination, 30 per cent.; second examination, 70 per cent.

Case IX.—Woman, aged 24 years; dysemia, following pneumonia. Time of administration, three weeks. First count, 2,600,250 red corpuscles to the c.mm.; second count, 3,400,000 to the c.mm. Hemoglobin (percentage of normal amount): first examination, 35 per cent.; second examination, 70 per cent.

Case X.—Woman, aged 20 years; dysemia, following miscarriage. Time of administration, three weeks. First count, 2,502,600 red corpuscles to the c.mm.; second count, 4,006,200 to the c.mm. Hemoglobin (percentage of normal amount): first examination, 40 per cent.; second examination, 65 per cent.

Case XI.—Man, aged 32 years; dysemia, following typhoid fever. Time of administration, three weeks. First count, 2,300,000 red corpuscles to the c.mm; second count, 3,640,160 to the c.mm. Hemoglobin (percentage of normal amount): first examination, 33 per cent.; second examination, 62 per cent.

Case XII.—A girl, aged 16 years; dysemia. Time of administration, four weeks. First count, 2,290,700 red corpuscles to the c.mm.; second count, 3,800,200 to the c.mm. Hemoglobin (percentage of normal amount): first examination, 40 per cent.; second examination, 60 per cent.

Case XIII.—A girl, aged 16 years; dysemia. Time of administration, four weeks. First count, 2,430,300 red corpuscles to the c.mm.; second count, 4,000,300 to the c.mm. Hemoglobin (percentage of normal amount): first examination, 40 per ct.; second examination, 65 per cent.

Comparing my results with Pepto-Mangan (Gude) with those obtained from other chalybeates of this class, I have been led to give it decided preference. As already stated, the only reliable means of diagnosticating dysemia is by the examination of the blood, and for the same reason the only way of testing the efficiency of a ferruginous preparation is by making blood counts and estimating the percentage of hemoglobin. On the ground of my findings, as shown by the histories of the cases cited, the results of such tests have been uniformly satisfactory and entitle the preparation to a leading place in ferruginous medication.—*Reprinted from the Buffalo Medical Journal, August, 1903.*

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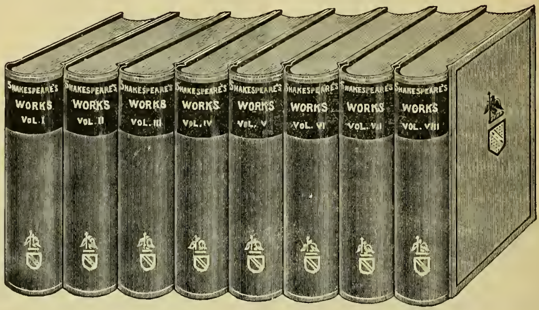

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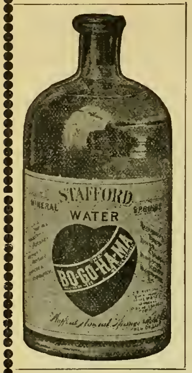

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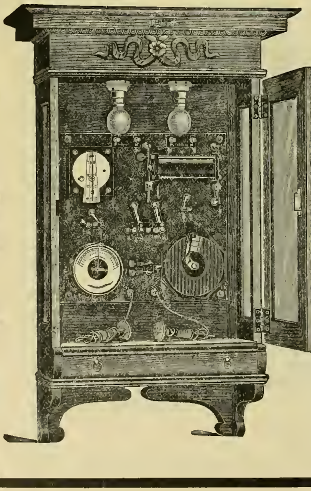

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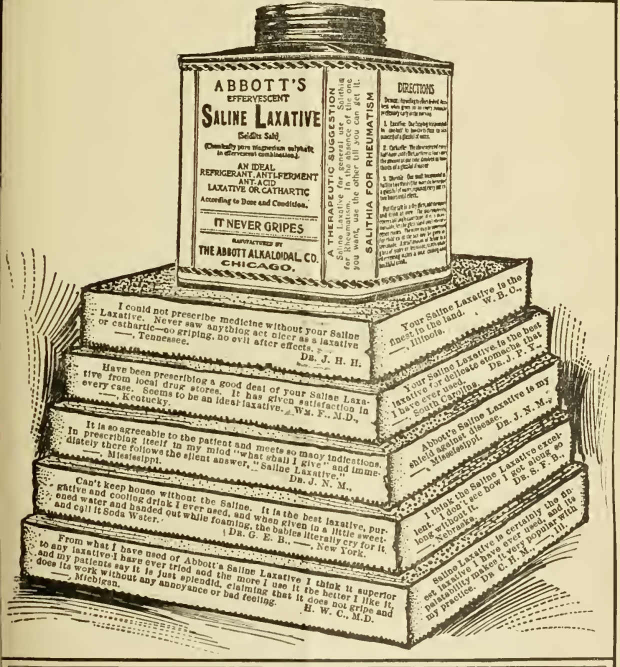
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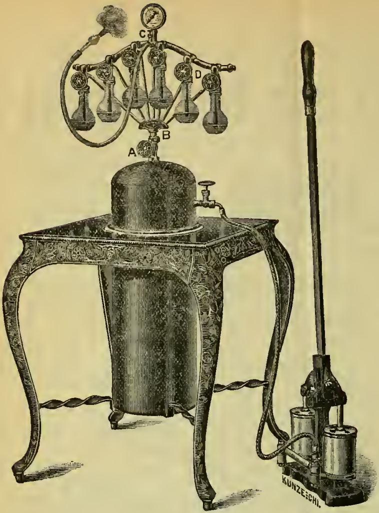

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Charlotte Medical Journal.

A MONTHLY JOURNAL OF MEDICINE AND SURGERY.

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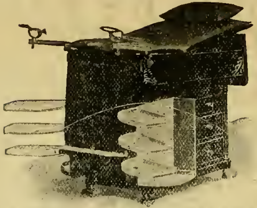

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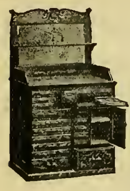

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The Charlotte Medical Journal.

Vol. XXIII. CHARLOTTE, N. C., DECEMBER, 1903. No. 6

Uterine Fibroids.—With Report of a Case

By Charles L. Candler, M. D., Dillsboro, N. C.

It is not my purpose in the following to add anything new to our knowledge of Fibroid Tumors of the uterus, but simply to go over some of the more important points in the morbid anatomy, symptomatology, diagnosis and treatment.

According to Skene, uterine fibroids are congenital, and have their genesis in lesions of arrangement of the tissue elements of the middle layer of the uterine wall, and that the only essential difference in the histological composition of the middle layer of the wall of the uterus and fibroma is in the arrangement of the tissues.

The muscular structure of the uterus is arranged in three layers, which are all intimately connected, forming one continuous muscle. In the fibroid neoplasm the fibres are arranged in a circular form around a given center, and are separated from the wall of the uterus by a thin layer of areola tissue, and do not form part of the uterine wall. So, according to the above, the tumor is in, but not a part of, the wall of the uterus.

The same author, as proof that their origin is a derangement of embrionic evolution, offers cases in which they have been found in a rudimentary state in the infantile uterus, and in young subjects before their presence had been announced by any symptoms.

They are divided into thee different varieties, according to their situation. 1st. Interstitial—when they remain imbedded in the middle coat of the wall of the uterus. 2nd. Sub-peritoneal—when they grow towards the outside into the abdominal cavity. 3rd. Sub-mucous—when they grow towards the cavity of the uterus. The latter variety may be broadly attached to the uterine wall or may be pedunculated.

The density of fibroma varies in different cases. Edema of the tumor may cause it to become quite soft, and cystic transformations, due to softening, or to distention of the lymphatic spaces, are sometimes observed. And again they may undergo calcification. They may be single, or there may be several growing together in one mass. They increase in size during pregnancy and diminish after confinement, and after the menopause they may disappear as a result of uterine atrophy.

It is said that uterine fibroids do not increase in size before the age of puberty, and that they disappear after the menopause. But this is not true in all cases, for even after the menopause the tumor may continue to grow. Generally the menstrual function continues till the 50th year or more.

During the growth of these tumors they frequently change their position and relation to the uterus. When the sub-mucous tumors become pedunculated, the condition is known as fibroid polypii of the uterus. These masses may finally become expelled as the result of uterine contraction. In rare instances the sub-peritoneal tumor has been known to become pedunculated, and detached altogether from the uterus.

Changes in the Uterus as a Result of the Fibroid.

As the tumor increases in size, the uterus undergoes a corresponding increase. Certain changes in the mucous membrane usually occur. There is always an endometritis and there may be polypoid growths may develop.

The pathological changes in the mucous membrane and the increase in its extent, caused by the enlargement of the uterus, produce an increase in its vascularity. To this state is due the hemorrhage which is generally present in fibroids of the uterus. There is often marked displacement of the uterus according to the size and location of the tumor. The functions of the surrounding organs may be interfered with as a result of the enlarged and displaced uterus.

Symptomatology: The symptoms may be divided into constitutional, those of the uterus itself, and those produced by the neighboring organs as a result of the pressure of the tumor.

Constitutional symptoms: In some cases, where the tumor is small, the general health may not be disturbed. As the tumor enlarges the constitutional symptoms begin to manifest themselves. As a result of the loss of blood, and impaired nutrition, the patient becomes anemic and debilitated.

Uterine symptoms: The most important symptoms referable to the uterus itself are pain and hemorrhage. The pain is more marked in the sub-mucous variety, though it is not always pronounced, and in some cases it is not at all persistent. It is generally irregular and spasmodic in character.

The most important and prominent symptom is hemorrhage. As a general rule it is greatest in the submucous, less in the interstitial and least in the sub-peritoneal varieties. Hemorrhage is so commonly present that fibroma has been aptly called "the bleeding disease of the uterus." It is not always the largest tumor that gives rise to the greatest amount of hemorrhage, for in small sub-mucous pedunculated tumors we may get very persistent and exhaustive hemorrhage.

The symptoms produced by the pressure of the tumor on the surrounding organs are generally more marked when the tumor occupies the pelvic cavity. The effect upon the bladder is to render urination very frequent and difficult, and in extreme cases the obstruction may be so great as to cause a complete retention of urine. Pressure upon the pelvic nerves and ovaries often causes much pain, and there is generally a great deal of pain in the back and limbs which is produced by the same cause. The function of the rectum is almost always interfered with as a result of irritation and pressure. Pressure upon the ureters may produce hydronephrosis and all the unfortunate results that follow such a condition. Very large tumors may interfere with respiration, and sometimes ascites may accompany fibroma of the uterus.

Physical Signs: The signs of fibroma are the increase in size and the change in form and consistence of the uterus, and the displacement of the canal as related to the body of the uterus.

The shape of the uterus is changed in nearly all cases. It is irregular in outline; one side being larger than the other. Especially is this so in the sub-peritoneal variety. In some cases the uterus is uniformly enlarged as in gestation, but instead of being soft as in gestation, it is very hard. In fibroma of the uterus the canal is eccentric and very often tortuous, while in no other condition would you find this the case. The relations of the canal to the uterus can be ascertained by means of the sound.

The differentiation between flexions and versions of the uterus and fibroids would be as follows: In the former conditions, the uterus would not be much enlarged and by means of the sound the cavity is not found displaced or enlarged.

Ovarian tumors are usually less dense, and are not fixed to the uterus; one can be moved without the other.

Prognosis: Fibroids are harmless as far as their tendency to destroy life is concerned. They produce much suffering but rarely cause death. As a general rule they cease to grow after the menopause, and diminish in size as a result of uterine atrophy. But, as a result of the pain and hemorrhage, many patients become exhausted before that period is reached.

Among the complications may be mentioned the following conditions: Hemorrhage which recurs so often is liable to impair the patients' nutrition to such an extent that some secondary affection causes death where it would not if such a debilitated condition did not exist. Peritonitis may occur, and, as a result of softening and decomposition, there may be a fatal septicemia. The tumor may be of such size as to cause death by pressure on surrounding organs.

Treatment: The treatment may be divided into medical and surgical. Medical treatment: There is a long list of remedies for this condition, but the best of them all is ergot. Ergot acts in two ways, viz: First, by exciting uterine contractions, it may produce expulsion of the tumor if its relations to the uterine wall are such that it can be expelled. Second: By keeping the uterus in a state of contraction, and by contracting the blood vessels, the size of the tumor is diminished and atrophy takes place.

Electrolysis is highly recommeded by Skene. The accompanying endomtritis should have especial attention, and any fungus growth should be removed with the curette.

When, as a result of uterine contraction, an intra-uterine tumor becomes pedunculated, its pedicle should be divided. The general health should be looked after with tonics and proper hygienic surroundings, and all displacements of the uterus corrected. When, by reason of the size of the tumor, the general health of the patient becomes such that life is threatened, either by the tumor itself or the conditions it produces as a result of pressure on surrounding organs, then the question of surgical treatment should be considered.

There are many methods of removing fibroids from the uterus, but a complete hysterectomy I believe to be the ideal operation, where the size, location and effects of a tumor are such as to require an operation. However, I do not think this should apply to tumors that could be removed per vagina. The operation permits of complete closure of the abdominal incision and eliminates the cervix entirely, furnishing the open end of the vagina as the best route for drainage.

I shall now give a brief history of a case that came under my observation some time ago, together with both medicinal and surgical treatment.

I. W., aged 36 years, col., married 5 years but never had any children. Had always been healthy until about six years ago, when she began to suffer a great deal at her menstrual periods. Being "afraid of doctors," she tried several different kinds of patent medicines, but continued to grow worse, except for a period of about six or eight months, when she thought she had entirely recovered. During this time she was in excellent health, did all her own house work, and suffered no inconvenience whatever. Suddenly, during one of her menstrual flows, she was seized with violent cramps in her lower abdomen, which, in spite of hot applications, continued throughout her menstrual period. This great pain would return about a week before each period, and would last for several days after the flow had ceased. This state of affairs continued for about a year, when she consulted a physician who told her she had a tumor. An operation was advised, only to be refused. She continued to grow worse, and in March, prior to the operation in April, I was called to see her, and found her in the following condition: She was considerably emaciated, and, on account of the great loss of blood she had been subject to, there was an extreme degree of anemia. Urination was very frequent and attended with intense pain, there being a marked cystitis. A considerable amount of blood and pus were found in the urine. Pain in lumbar and sacral regions which extended to lower extremities.

On examination, a large irregular, indurated mass was found extending above and to the left of the umbilicus. On vaginal examination, the pelvic cavity was found completely filled with a dense mass. The cervix could not be found, it being displaced backwards and upwards. A diagnosis of fibroid tumor of the uterus was made and an operation advised which was readily consented to, she, being at this time convinced that this was the only chance she had for her life. Opium was administered for the pain, and when the menstrual flow had ceased, she was placed on preparatory treatment, which consisted of iron, quinine and strychnine, warm baths, an easily digested and nutritious diet and moderate exercise.

The house in which she lived being a two roomed cottage, with kitchen and dining room in the rear, and the hygienic surroundings not being very good, she was advised to have the operation done in town where the accommodations would be better. But this proposition she absolutely refused, saying that if she was not operated on at home she would not be operated on at all.

On the 14th of April, with the assistance of Drs. Candler, Knight and Davis, the operation, as recommended by Kelly, was done. The field of operation, having been rendered as aseptic as possible, an incision was made in the median line, and the tumor exposed. Considerable adhesions were found and carefully separated. The ovarian vessels on the left side were ligated, clamped towards the uterus and cut between. The round ligament of the same side was ligated near the uterus, and cut free. An incision was made through the vesico-uterine peritoneum from the severed round ligament across to its fellow, freeing the bladder which was pushed down with a sponge, exposing the cervix. The body of the uterus being pulled to the opposite side, the uterine artery was exposed and tied just where it leaves the cervix. The veins were not tied. At this point, instead of amputating the cervix, as advised by Kelly, the same procedure as before was gone through with on the opposite side, the amputation of the cervix being left for the last. The whole mass, consisting of the tumor, uterus, tubes and ovaries, was removed. The cervical tissues being closed over the cervical canal, the anterior layers of the pelvic peritoneum were drawn over the wound area and attached to the posterior peritoneum by a continuous cat-gut suture. The abdominal incision was then closed, using a continuous cat-gut suture for the peritoneum, an interrupted cat-gut suture for the fascia and subcutaneous fat, and an interrupted silk suture for the skin.

The wound was dressed in the usual manner, and the patient removed to a bed, and stimulants administered. She soon rallied trom the effects of the anesthetic, and the shock following the operation amounted to practically nothing. Temperature never went above 100 degrees F. Kidneys and bowels acted well during the whole time she was confined to the bed. She made an uninterrupted recovery, the abdominal wound healing by first intention. In two weeks she was allowed to sit up in the bed, and in three weeks she could walk around the room. At the present time she is in excellent health and weighs more than she has for years.

In conclusion. there are one or two things in the preparation for the operation that I wish especially to call your attention to. In the first place, our instruments were sterilized by boiling them in a pot in the yard, and conveyed from there to the room through a small slide window. This window and a small tin lamp, with no chimney on it, were our only means of light. In spite of all these adverse circumstances, there was not the least sign of infection after the operation.

The Influence of Alcohol in Heredity.*

By E. A. Moye, M. D., Greenville, N. C.

It has long been the custom for the Annual Essay read before this Society to deal with some subject of interest alike to the general public and to the members of our profession. In obedience to that custom, I shall call your attention to-night for a short time to the subject of "Heredity," and especially to the influence of alcohol in heredity.

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*Read before the North Carolina Medical Society, at Hot Springs, June, 1903.

Hundreds of years ago The Great Lawgiver laid down the general proposition that the sins of the fathers shall be visited upon the children to the third and fourth generation. If he had gone further and laid down the counter proposition, that the children shall inherit the strong minds and strong bodies, the high ideals and strong intellects, to the third and fourth generations, it would have been a brief and concise statement of the law of heredity. It is not my purpose to-night to consider this subject in all of its phases. Time would not permit me, even if I were competent to do so, to enter into the many factors which we have to consider in the study of this subject. The members of our profession are well aware of the frightful number of children who are brought into the world handicapped in life's great struggle by some disease or trait of character inherited from its parents. Some of the States of our Union have on this account passed stringent laws regulating marriage. This same fact was realized by the Spartans centuries ago, and by strict laws and strict enforcement of these laws they were able to build up and develop the men and women of Sparta into the grandest physical specimens the world has ever seen. The Spartans made the mistake of sacrificing the mental and moral to the physical, and, on that account, their glory was of short duration.

There is one factor which enters into this subject of Heredity to which I shall devote this paper, and that is the influence of alcohol on future generations. In my humble opinion, it is THE great factor with which we have to deal in the study of this subject. In my limited experience I have seen so many children afflicted with this horrible curse that I have felt that perhaps we were not giving it the consideration it deserved.

The Superintendents of our Hospitals for the Insane tell me that alcohol causes more insanity than all other agents combined. Think of it, 50 per cent. of the inmates of all of our insane asylums are descended from alcoholic parents. The children of alcoholic parents are prone to many nervous disorders, even if they are not insane. Almost every degenerate I have seen in my practice is in this class; the sons are epileptics and dipsomoniacs, and the daughters are nervous wrecks, hysterical, epileptics, and are prone to be habitues of some drug. Nearly all of the morphine fiends with whom I have come in contact, are descended from alcoholic parents. Of course, there are some exceptions, as the use of the drug sometimes begins from taking it for the relief of pain, but even they are generally able to break off the use of the drug if their minds have not been weakened by some hereditary taint. The section of my country, where we find more of these unfortunate creatures than in any other section. has long been known as the home of drunkards. The offspring of sound, temperate parents are less likely to suffer from alcoholic degeneracy, even though they may be heavy drinkers themselves, than the offspring of alcoholics, who may not drink half so much.

Pronounced alcoholism in the parents always means examples of mental disease and weakmindedness in the children, provided the alcoholic tendency is not acquired late in life. In that event, children who are born prior to the acquiring of the alcoholic habit have a better chance. An inebriate father is certainly a handicap, an inebriate mother is a greater misfortune, but the child of an inebriate father and mother is almost certainly doomed from its birth. It has often been proven, by the most eminent modern investigators, that even a moderate quantity of alcohol in the circulation will cause marked changes in the cortical neurons of the brain, changes in the nucleus, granular bodies and protoplasm may be actually seen. Because these cells are the material basis of man's moral sense and conscience, the physical representations of his asperations, his likes, his fears and his will power, their harm seems to be of far greater importance than the question of the effect of alcohol on the stomach and liver. It is a law of nature that the most highly organized tissues suffer first and most from the action of toxic agents in the blood, so it is the moral and ethical sense which suffers first and most and is often the only manifest evidence in the first generation of the powerful effect of alcohol even if taken in moderate quantities.

It is only by the foregoing facts that we can understand the powerful influence exerted by alcohol in heredity, and for that reason I have called your attention to them to-night.

If we would do all in our power for the physical and mental development of mankind and to create and produce and maintain for our State really healthy and strong citizens, our endeavors should first be directed to the elimination of all influences, which operate to destroy the physical and mental strength of the new born, and we should use our best efforts to suppress alcoholism.

Postpartum Hemorrhage.*

Gentlemen: One of the requirements of our Society is that the President, at the expiration of his term of office, shall deliver an address before the members assembled.

I purpose, then, presenting for your consideration a subject of interest and of great practical importance to all who engage in the duties of the accoucheur. My subject is Postpartum Hemorrhage.

Assuming that labor is a natural process, and that its laws are adequate to accomplish its purpose, we can readily account for the numerous cases of labor without any interruption or danger to the patient. Therefore the multiplicity of cases that occur without the first untoward incident is apt to throw us off our guard, and to find us unprepared to meet the alarming condition that sometimes ensues in postpartum hemorrhage. There is no condition that is more trying to the physician or more dangerous to the patient. Hence the importance of a clear and comprehensive knowledge of the conditions that lead to it, and of a cool and firm reliance in one's power to cope with so dangerous a contingency.

There are two distinct conditions occurring in postpartum hemorrhage, requiring different procedure on the part of the attendant.

The first is where the after-birth has been partially detached from its adhesion to the womb, and where the contractions of the womb have been insufficient to complete its detachment, and hemorrhage ensues from the mouths of the blood vessels left open by partially detached placenta. This hemorrhage may be comparatively slight, or very copious—owing to the extent of the separation of the placenta. The treatment consists in producing firm and uniform contraction the of organ. To accomplish this—if the hemorrhage is slight and ample time is afforded us—we may by friction over the fundus of the uterus arouse it to increased activity, which will result in further separation and removal of the placenta. This failing, the hand should be gently introduced into the uterus and the placenta grasped, drawing it downward and outward—allowing the womb to contract uniformly upon the hand and placenta and expelling both by its own efforts. After which a dose or two of ergot may be given to insure continued contraction of the organ. Should the womb exhibit tardiness in firm contraction, accompanied with a continued tendency to hemorrhage, we may resort to other measures to arouse the reflex action of the organ. Pouring cold water from a distance of one or two feet in height from a pitcher upon the abdomen—it is seldom that the womb will fail to respond to this shock, a degree of contraction following that will be available. Another method of arousing reflex action is by applying the infant to the breast. If the mother is sufficiently conscious to recognize the child, there will be a corresponding contraction from the mental emotion of maternal affection. It is sometimes necessary to grasp the uterus through the walls of the abdomen; or even to introduce the hand into the uterus, thereby endeavoring to produce contraction of the organ, bearing in mind that firm contraction is essential to close the open meuths of the bleeding veins and secure safety to the patient.

The second variety of postpartum hemorrhage—the one altogether most dangerous and insidious—is that known as concealed or internal hemorrhage. This may happen shortly after the delivery of the child and after-birth, and when the physician is possibly congratulating himself upon the favorable termination of a slow and protracted labor, and is about to leave the room, when his attention is arrested by some peculiar appearance of the patient that awakens his alarm. Upon examination, the feeble pulse, pallor of the face and sighing respiration, together with an unnaturally enlarged condition of the abdomen, point out the imminent danger of the patient—and he has an internal hemorrhage to deal with. He finds the mouth of the womb closed with coagulated blood, and no blood externally apparent. There is no time to be lost in this form of hemorrhage, for his patient is rapidly sinking and might succumb to fatal syncope before he is aware of danger. In some cases the hemorrhage does not occur until one or two hours after the patient has been delivered, bandaged and put to bed—and possibly after the physician has left the house. This has happened twice in my practice, and the cases are of sufficient interest to admit of a brief narration of them. Before proceeding, however, the conditions leading to such an event may be mentioned. A slow, tedious and protracted labor, with inefficient pains (indicating inertia of the womb), is apt to be followed by such a hemorrhage, in want of contractibility of the walls of the uterus—allowing a small drainage to accumulate and form coagula at the mouth of the womb, thereby preventing the escape externally, while the bleeding goes on internally, gradually distending the womb, and its enfeebled condition preventing it from expelling the accumulated blood. Such was the condition of both of the cases to which I referred.

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*Address of the President, Dr. J. J. Bossard, at the Annual Meeting of the Sumter County, (S. C.) Medical Association, May 29th, 1903.

The first I did not deliver, but saw her a half hour after she had been delivered and put to bed by a midwife. On arriving I inquired as regards the labor and was informed that it had been slow and tedious but had progressed uniformly in every other respect, the after-birth and membranes passing off without any difficulty. I examined the pulse and found it normal; placing my hand over the uterus it seemed to be firm and well contracted. The patient being apparently in good condition, and having an urgent call awaiting me, I took my departure. An hour and a half afterwards I was hastily summoned to the patient with the statement that she was thought to be dying. Upon entering the room I found her with sighing respiration, more or less jactitation, and was informed that she had fainted repeatedly. I at once examined the womb. I found that there was no external hemorrhage; but the womb was very much distended, indicating internal hemorrhage. At once removing the bandage I called for a basin, introduced my hand into the uterus and scooped out a large quantity of fluid blood and coagula, in the meantime giving her a small quantity of whiskey. Continuing the treatment—consisting of the alternate application of cold and heat, and the further use of ergot—after three hours watching of the case I had the satisfaction of being able to leave her in safety, with apparently firm contraction of the womb. She made a slow but complete recovery.

The second case I will mention was, in several respects, similar to the first. In this case, however, I had delivered the patient myself, and had used every precaution to obviate the occurrence of hemorrhage. The case progressed slowly and was very tedious After a while the placenta and membranes passed off without much or any assistance from me. I had taken the precaution to administer a dose or ergot when the head appeared at the vulva, and established gentle but uniform pressure over the womb by the hands of an assistant—this being my custom. After the delivery was complete, apparently firm contraction of the womb was established, and there was no visible hemorrhage. The patient was bright, and expressed herself as being comfortable and was pleased and gratified at the successful termination of the case. After remaining in the house about an hour, I again examined the pulse and felt over the womb to satisfy myself that nothing was unnatural, stating that I would call in the evening again—the delivery occurring about 11 o'clock a. m. It was about 2 o'clock p. m. when I was hastily summoned to the patient, who, it was said, was looking and acting very strangely. Her pulse I found was very weak; there was great pallor of the face, sighing respiration, tossing of the hands over her head, and extreme restlessness in every particular. In fact, my patient was rapidly sinking from internal hemorrhage. I at once introduced my hand into and emptied the womb of its contents, and resorted to external pressure, giving the usual quantity of ergot administered in such cases, and used cold and warm applications as in the other case. The womb, however, did not readily respond to this treatment, and the hemorrhage continued, but in a less degree. I had sometime before read in a medical journal where the local application of turpentine within the womb had been recommended and successfully used. I at once determined to test its efficacy. Calling for a saucer and a clean silk handkerchief, I filled the saucer with turpentine and with it thoroughly saturated the handkerchief. Placing my fingers in a conical shape and throwing the handkerchiet over them, I boldly inserted my hand into the womb and swabbed it thoroughly. After a short time I had the satisfaction of seeing the hemorrhage completely arrested, with sufficient contraction of the womb. I would here remark that the patient experienced no burning or pain from the use of the turpentine, and to this day she is ignorant of the treatment resorted to. Caution is required, however, in not allowing the turpentine to come into contact with the skin, externally.

These few remarks, gentlemen, I submit for your consideration, trusting that if not beneficial in your practice, they may at least possess some merit of interest.

Ileo-Colitis.*

By Lenna L. Meanes, M. D., Des Moines, Iowa

Ileo-colitis is an inflammation of the mucous membrane of the lower portion of the ileum and of the large intestine. This disease comprehends what is usually called dysentery and many forms of enteritis. Of the intestinal diseases in general this probably is the most prevalent, the commonest age being under ten; consequently the discussion of this paper will be confined to the disease as seen in children.

Sex, race and social condition seem to have no influence upon the disease. It is found equally in both sexes, and all races seem to suffer alike; social conditions affecting it only in that the diet and general surroundings of the patient are different.

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*Read before the Iowa State Medical Society.

Among the causes of the disease the predisposing ones are to be found largely in the diet of the patient. Next to diet, if not equally important, is that of ventilation or air. Many cases occur in patients who are well nursed and well cared for in every other particular but lack of abundance of fresh air. We are frequently called upon to treat cases of ileo-colitis of the gravest type in which the only cause, either exciting or predisposing, is that of insufficient ventilation. Small children are kept in bed with their parents in an illy ventilated room, and not infrequently lights—one or two—are kept burning during the entire night. The result of this poor environment is seen in the gradually increasing anæmia of the child, and, finally, under some slight exciting cause, an intense ileo-colitis is the result.

As a rule, ileo-colitis is secondary to some slight gastro-intestinal disturbance. These may be so slight as to be almost overlooked, or receive only domestic treatment, the case coming under the physician's care only after the dysentery has developed. It is very easy to comprehend how the putrefactive changes that have their origin in the stomach and smaller bowel may not be of a very severe type, but by being neglected for a number of days or weeks gradually cause a more severe condition of affairs in the lower ileum and large intestine. Boas has explained this on the ground that the movement of intestinal contents at the ileo caecal region is slower than anywhere else in the gastro-intestinal tract. Others have explained it on the ground that putrefactive changes beginning farther up the bowel have reached their maximum intensity at this point, and consequently the tissues here must bear the burden of the increased toxicity of the contents.

The pathology of the disease does not bear constant relation to the clinical manifestations. Some cases that have run to undesirable termination show at autopsy only slight changes, which changes do not fully explain all of the severe clinical manifestations. Again, others that go on to fatal termination show the most profound change in the wall of the intestine. And even in those that go on to recovery, from the contents of the stool we know that the pathological change in the wall of the bowel has been most profound. The disease, begins, evidently, as small localized patches of inflammation, usually confined to the acini of the glands, the number of these localized inflammatory patches depending upon the severity of the case. As the disease progresses these inflamed areas increase in size until finally they coalesce, sometimes involving the entire caliber of the bowel. When a number of these patches are coalescing the mucous membrane is shed off in shreds and masses, accompanied by a considerable amount of blood and exuded serum. Often fibrine exudes and forms over the raw surface, and is then cast off, giving rise to that characteristic dysentery stool upon which we often base the diagnosis of the case. The writer of the American Text-book of the Diseases of Children describes this stool as washed meat in appearance, the shreds resembling washed muscular fibre. They are really fibrine and mucous membrane. The amount of pus passed is considerable in all cases, the amount of blood varying with the intensity of the case. Blood, however, is not a reliable sign from which to make a diagnosis, because it may become so changed before it is passed as to not be recognized.

The symptoms of the disease are not very well defined. The only two constant symptoms that are present are the characteristic stool just mentioned and the painful tenesmus. Otherwise the disease resembles acute or sub-acute intestinal affections of other kinds. The young patient suffering from dysentery has a constant desire to go to stool. There is a constant straining, sometimes a degree of chronic spasm, almost, there being very few intervals in which the patient is not in this convulsive condition. This, together with the profound intoxication, soon weakens the patient to a point of collapse. The diagnosis, as before stated, must be based upon these two points, viz: the character of the stool and the intense tenesmus.

There is distension of the abdomen, and as a rule tenderness along the colon. In the severe catarrhal forms the prostration is extreme—temperature high—dry tongue —sordes on the lips and teeth, and prominent nervous symptoms.

In differential diagnosis we have little trouble, as typhoid fever is about the only disease similar. A little time clears that up, as in typhoid we have the slower invasion—enlarged spleen—the characteristic temperature—and the eruption.

In making a prognosis of any case of ileo-colitis we must take into consideration three things: the general strength of the individual, his hereditary tendency and environment. In this, as in all acute diseases, the individual with a strong constitution stands a better show than otherwise. Heredity plays an important part. With children of parents of tuberculous or scrofulous tendencies, or whose parents are weak or enfeebled from any cause, alcoholic or dissipated in any way, we must make an unfavorable prognosis. The environment of the patient has a great deal to do with the outcome of the case. If proper ventilation, baths, cleanliness and the right kind of food can be used, the prognosis is very favorable. But these factors are almost beyond our control. Even in families who are otherwise very intelligent, it is very hard to get the right kind of care for the children. They will be fed unreasonable things at unreasonable times, and the fear of taking cold prevents the righteous use of cold water. Children will be allowed to remain in the same clothing day in and day out, for fear that they will take cold if the clothes be changed. As the diet in this disease be restricted, it is not uncommon to find some sympathetic member of the family smuggling little delicacies to the patient, greatly to the patient's detriment. I have seen a case of ileo-colitis terminate fatally because the sympathetic grandmother fed the hungry patient some bananas.

In regard to the treatment, there is no specific for this form of diarrhœal trouble. As before suggested, the main treatment should be dietetic and hygienic. The diet must be restricted to predigested foods—not predigested foods of the drug trade, but food that you or your competent nurse has prepared for the patient. Peptonized milk, barley water that has been sufficiently boiled, should constitute the main diet of the case. It might be well to suggest here that in making barley or rice water for these cases the boiling should be continued for at least four hours, because it is not the suspension of the starch alone that we wish to accomplish, but the thorough hydrozation. This can only be accomplished by hours of boiling. The first twenty-four or forty-eight hours, in very acute cases, no food at all should be given. Local treatment directed towards the bowel should consist of thorough lavage. This can be accomplished by placing the patient in proper position and using a short rectal nozzle for the syringe. The flushing should be done with a normal saline solution, and it should be repeated every two hours. It is not necessary to use a rectal tube, because the flushing will be just as efficient if the patient is placed in the right position and the saline solution allowed to flow in very slowly. It should require from five to fifteen minutes to allow a pint of water to flow into the bowel; if it is done more rapidly the spasm that its entrance sets up will defeat the process. Furthermore, the frequent passage of a rectal tube will irritate and injure the lining of the bowel, which is already in an engorged state and specially liable to injury. To overcome the tenesmus after the bowel and stomach have been thoroughly cleansed a little opiate must be used, but this drug must be used with great caution. The best way is to use morphine, making your own solution. If the child is very young, or you would imagine one one-hundreth or one one-hundred-and-fiftieth of a grain sufficient, this size dose can be easily made. Take your hypodermic tablet of morphine and drop into the required amount of water, so that one teaspoonful of the solution will give you the required dose. In giving one one-hundreth grain of morphine I find it very convenient to call for a glass and spoon and count out twenty-five spoonfuls of water. In this dissolve the one-fourth grain hypodermic tablet, and direct that a teaspoonful shall be given as required. A spoonful is a very indefinite quantity, but where you have measured out the water, and then direct that the same spoon be used in giving the medicine, you are sure that you are giving the required amount of the morphine. Here you are absolutely accurate, while in paregoric and other opium preparations we are far from accurate.

Drug treatment by the stomach is of little value. Little or nothing can be done with intestinal antiseptics. The best we can do is to give a mechanical sedative in the way large doses of bismuth sub-nitrate. Twenty-five grains of bismuth sub-nitrate can be given every hour to a child twelve months old. This can be given in divided doses. It will diminish vomiting and thirst, obtund the sense of hunger, if it is present, and have a marked sedative action on the mucous lining of the bowel.

Rest in bed is absolutely necessary; the patient with ileo-colitis should not be allowed to move. A little exertion will bring on the spasms of tenesmus and set up the characteristic stool, when we imagine that we have it under control.

Just a point regarding the use of cocaine. Where the tenesmus is due to a low colitis, a grain of cocaine dissolved in a pint of hot water and the bowel flushed with this solution will give a few minutes' rest, which rest means a turning point for the better.

To sum up the treatment, we will say that hygienic and dietetic treatment are of major importance. The drugs can only control the symptoms; the cure must be brought about by the proper diet.

The Causes and Prevention of Consumption—(Phthisis).*

By Edwin R. Maxson, M.D., A.M., L.L.D., of Syracuse, N. Y.

The words Phthisis, from the Greek *phthinomia*, and Consumption, from the Latin *consumo*, I consume, or waste, are used to designate a disease, "characterized by progressive wasting of the body;" the latter, consumption, being more generally applied to pulmonary phthisis, and hence the disease, involving the lungs, is more generally understood. And while this paper has more special reference to the disease as it occurs in the lungs, it applies, also, to any other general or local specific tuberculous disease wherever located.

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*Read, by request, before the Alpha Omega Delta Medical Fraternity of the Medical Department of Syracuse University, Oct. 30, 1903.

In order to understand how consumption may be produced, and eradicated, it should be remembered that the general imperfect condition of digestion, assimilation and nutrition, hereditary or acquired, if it may not generate and develop the disease, may be, and generally, if not invariably, constitutes the essential physical condition in which consumption may be contracted from others, or generated in the system developing the disease. And while it may be possible for the disease to be contracted, by exposure to the contagion from others, by persons who are not hereditarily or otherwise predisposed, and whose digestion and assimilative functions are good, the chances might be very slight. Assuming this to be true, while it may be highly proper to take all reasonable measures, not inconsistent with the rights and interests of consumptives, to avoid exposing the multitude, it should be borne in mind that to prevent and eradicate consumption we as physicians should understand and obey, as well as instruct others to obey, the laws of life and health in every minute particular.

For if it is only as a result of imprudence of the individual or progenitors that consumption may be generated, or even contracted from others, as is doubtless generally true, should we not, rather than ruin by stringent measures these unfortunates, get down to the root of the matter?

By this I mean, impress upon all by example, as well as teaching, a course of living consistent with perfect digestion, assimilation and nutrition; thus getting above the physical condition capable of either generating or contracting the disease from others.

Doubtless the irregular nursing and feeding of infants and children, as well as allowing of food at all hours, impairing digestion; together with candies, nuts, and other worthless, if not injurious, trash, tending to impair digestion, assimilation and nutrition, may early lay the foundation for consumption in those not hereditarily predisposed, and early develop it as well in those unfortunately predisposed hereditarily.

The same is true, to a certain extent, in relation to the clothing of infants with bare arms, and children with next to bare legs, from mere fashion, tending often to develop local inflammations leading to the final development of the pulmonary or other local tubercular disease at an early age in the brain, lungs, or other organs of the body, as I have witnessed in painful instances too numerous to mention here. This is a wide field for physicians, to instruct the mothers and to prevent infantile tuberculosis, for the faithful performance of which we are morally bound to exert our best, untiring energies.

A late physician in Paris gave it as his opinion that three thousand children had died from these causes in that city during his thirty years' practice there.

Childhood passed with the imprudent habit of irregular eating, trash, and improper clothing in many respects and the habits continued on into girl and boyhood, has, according to my observation, together with additional imprudencies too common at such an age, materially added to the imperfect digestion, assimilation and nutrition of childhood, so that a large proportion of the young men and women at twenty are confirmed dyspeptics, and too many have become fit subjects for generating or contracting pulmonary or other tuberculous disease, from which I have painfully witnessed a rapidly fatal termination at this early noon of human life.

Add, now, to the imprudencies already named the habits of gluttony, drunkenness, licentiousness, in its various forms; tobacco, late suppers, etc., too many, thus developing or contracting consumption, or else live on at a poor dying rate; if they marry and have children, many of them are born with or rapidly develop tuberculous disease of the lungs, brain, or other organs or parts.

What then must be our responsibility, as guardians of the life and health of those under our influence? Shall we back up our instructions by doing as we teach, thus making it appear at least that we are in earnest? Or shall we eat late suppers, smoke cigars and cigarettes, guzzle lager beer, wine and other intoxicants? God forbid!

Perhaps we are all doing our duty by teaching and example in attempting to prevent consumption in Syracuse and elsewhere. But if we have been, I fear our influence has been exerted with but limited success thus far from among the many that have come under my observation, mostly young women, and some young men, in the last stages of consumption, the testimony has been, whether true or false I do not know, that neither patient or attendant has generally given proper instructions in relation to the imperative necessity of a strict observance of the laws of life and health;

and especially as to the necessity of avoiding all trash, and importance of taking only proper food with strict regularity as we all should.

To prevent consumption many other fearful causes operating should receive careful attention by us as collateral ones. Among these syphilis, masturbation. cosmetics and hair dyes containing lead, are perhaps the most prominent.

Syphilis, "by its debilitating influence, predisposes to phthisis," and especially of the larynx, involving the pharynx, characterized by ulcers in those parts, of a most distressing character, hereditary or acquired.

Masturbation, especially if commenced early and continued for any considerable time, may not only produce consumption but also fearfully undermine the intellectual and moral as well as the physical constitution of either sex.

Cosmetics so often used by the young, by affecting the brain, and in a less degree, perhaps, digestion and assimilation, impair the blood, lessening its plasticity, and may favor, if not produce, tuberculosis in those predisposed, and doubtless predisposes in those not otherwise inclined. Hair-dyes, though generally used by persons past the age at which consumption most frequently occurs, in addition to depraving the moral powers and weakening the intellect, may even act as cause, through the blood, of pulmonary or other tuberculous disease.

Here then, in hair-dyes and cosmetics containing lead, masturbation, and syphilis, we have collateral causes, to be suppressed, in preventing consumption.

Careful avoidance of fevers, miscarriages, over lactation, drying up of ulcers, mental depression, bad ventilation, unhealthy climatic influences, dampness of soil and surroundings, as well as many other kindred influences, may aid materially in preventing a predisposition to or a development of consumption in those already predisposed; all of which may require our careful consideration and advice in every minute particular. The same is true in relation to trades, as carpet-weavers and steel-grinders, as I have recently witnessed in a nearly fatal case of the former.

To prevent the *location* of tubercles in the lungs, brain, and other parts, the greatest care should be exercised in preventing colds, bronchitis, pneumonia, pleurisy, or injuries of the brain, lungs, or other vital parts. For a predisposition existing, hereditary or acquired, the seat of deposit of the matter, microbial or other, may generally be expected to take place in a weak or otherwise diseased part, in consequence of diminished power of vital resistence. Influenza (Grippe) doubtless strongly predisposes to tuberculosis of the lungs or other parts; as the meninges of the brain, lymphatics or glandular system, when not early and properly treated, calling for diligence on our part to prevent it.

It may be answered that many of these causes of consumption should be pointed out by parents and guardians to the young under their care. And this may be true to a certain extent, but many do not understand the importance of these matters.

And, if they did, too many of them are practicing the imprudencies themselves, and are slow to instruct their children properly; and, if they did, would be no more heeded than would the doctors, if they were not obeying the rules they are laying down to others.

Where is the boy that will stop smoking cigarettes, while the father, guardian, or doctor advising it is smoking cigars? Or where is the child that will throw away poisonous candies, or other trash, while the parent buys and brings them home? even though ordered to do so by the parent or doctor. Very few young men will leave the beer or wine while the father drinks rum, though commanded to.

And, finally, if we expect people to heed our instructions in relation to the avoidance of the causes of consumption and observance of the laws of life and health necessary thereto, we must undoubtedly obey the laws ourselves, or they may very justly say, "Physician heal thyself." Let all try it then, perseveringly.

818 Madison Street.

Ichthargan in Eye Disease.

Dr. E. Guttmann, of Breslau (Germany), has tested ichthargan in opththalmological affections. In catarrhs characterized by swelling, the drug proved very efficacious, but still did not render other remedies wholly dispensable. In blennorrhea neonatorum its effects were such as to justify further trials. In dacryocystoblennorrhea it proved very useful for doing away with the purulent secretion. Its best effects, however, were manifested in the secreting forms of trachoma, and in pannus, in the treatment of which the author now considers ichthargan one of the best medicaments; its application is perfectly painless, and 1-per-cent. solution instilled once a day generally suffices.—Wochenschr. fur Ther. u. Hyg. des Auges, v, No. 36.

Aletris Cordial, Rio

is indicated as a prophylactic remedy against post-partum hemorrhage, uterine weakness, great development of the fetus and of the adnexa, and in those cases in which there is disposition to hemorrhages.

Charlotte Medical Journal

EDWARD C. REGISTER, M. D., Editor.

No. 36 South Tryon Street, - - - -
- - - - - - - - - - - Charlotte, N. C.

OSTEOPATHS AND THE MEDICAL LAWS OF NORTH CAROLINA.

Through the kindness of Dr. Way, Secretary of the North Carolina Medical Society, I have received a copy of the brief for the State versus Biggs, prepared by Attorney General Gilmer for the Supreme Court of this State. It is an interesting document from a medical standpoint, and I consider it of sufficient importance to reproduce the greater part of it.

The defendant, according to Mr. Gilmer, was indicted in the Superior Court of Guilford county for practicing medicine and surgery without having obtained a license from the Board of Medical Examiners of this State. Last May the defendant was found guilty. Judge W. R. Allen was the presiding Judge. The defendant appealed to the Supreme Court, and the Attorney General will use this brief, above referred to, as a part of his argument for the State against the defendant.

After pointing out the laws bearing upon this subject which now exist in this State, he says:

"The act of 1903 declares that 'for the purposes of this act the expression practice of medicine or surgery shall be construed to mean the management or treatment, for fee or reward, of any case of disease, physical or mental, real or imaginary, with or without drugs, surgical operation, surgical or mechanical appliances, or by any other method whatsoever; *Provided*, that this shall not apply to midwives or nurses; *Provided further*, that applicants not belonging to the regular school of medicine shall not be required to stand an examination except upon the branches taught in their regular colleges, to-wit: the osteopaths shall be examined only upon descriptive anatomy, general chemistry, histology, physiology, urinalasis and toxicology, hygiene, regional anatomy, pathology, neurology, surgery, applied anatomy, bacteriology, gynecology, obstetrics and physical diagnosis; *Provided*, this act shall not apply to any person who ministers to or cures the sick or suffering by prayer to Almighty God, without the use of any drug or material means."

According to Mr. Gilmer, A. C. Biggs, the defendant, has offered his professional services in the city of Greensboro, and displays in front of his house a sign bearing the words: "A. C. Biggs, Nonmedical Physician." He advertises himself as a physician, and invites the sick to consult him. He declares that it matters not what the nature of the trouble is, or how long the patient has been afflicted, his Life System of Drugless Healing will cure him. He also has appended, "*The Sick* made well without drugs or surgery."

Mr. Gilmer states in his brief that the defendant administers massage, baths and physical culture. and manipulates the muscles, bones, spine and solar plexus, and kneads the muscles with the fingers of the hand. He writes no prescriptions, but advises his patients as to what to eat and what not to eat. He prescribes when his treatment shall be taken. He has treated many cases since the act of 1903 was ratified. Here Mr. Gilmer defines, according to legal authorities, what osteopathy is. He says:

"This new word is composed of two Greek words, literally meaning the restoration of bone. It is practiced by some for the cure of ailment by a process which rejects the use of drugs or medicine and substitutes a system of rubbing and kneading of the body."

Under the head of skilled trades and learned professions that are under legal restriction the Attorney General, after quoting several authorities, further states:

"Where the successful prosecution of a calling requires a certain amount of technical knowledge and professional skill, and the lack of them in the practitioner will result in material damage to the one who employs him, it is a legitimate exercise of legal power to prohibit any one from engaging in the calling who has not previously been examined by the lawfully constituted authority and received a certificate in testimony of his qualifications to practice the profession. The right of the State to exercise this control over skilled tradse and learned professions, with a single exception in respect to teachers and expounders of religion, has never been seriously questioned." Here again Mr. Gilmer quotes from several volumes of legal authority and gives quite a little history of the origin of the laws regulating the practice of medicine. He states:

"We read in Dr. Bonham's case, Coke's Reports, part 8, pp. 116-117 (1606) 'of a law concer. Physicians, for the more Safety and Health of Men,' and the existence of a board of censors with power to remove a certain class of practitioners 'who more hurt the Body of Man than the Disease itself.'" Laws of this character, according to Mr. Gilmer, have been incorporated in the statutes of almost every State in the Union, and as far as he has been able to discover, they have been sustained by the higher courts. To be exact, Mr. Gilmer says the higher courts of twenty-nine States sustain this proposition.

The brief says ever since the origin of Osteopathy, said to have been in 1871, with Dr. Still, of Kirksville, Mo., there has been a great controversy in regard to the question as to whether a person engaged in its practice came within the scope of statutes regulating the practice of medicine and surgery. Several States held that it did; others that it did not. In the McKnight case, of Southern Pines, this State, the Supreme Court held that the osteopath did not come within our stautes regulating the practice of medicine and surgery.

Here the Attorney General quoted extensively from the decision of the Supreme Court of the State of Ohio as to the right of a General Assembly of this or any other State to enact laws regulating and governing the practice of medicine. He says: "Where the pursuit concerns in a direct manner the public health and welfare, and is of such a character as to require a special course of study or training or experience to qualify one to pursue such occupation with safety to the public interests, it is within the competency of a General Assembly to enact reasonable regulations to protect the public against evils which may result from incapacity and ignorance." He further says that the Legislature has ample power to protect the public health and welfare by providing that only the learned may pursue a learned profession whose activity so closely affects them.

The reason assigned by the Supreme Court of Ohio, declaring that a particular feature of the statute of that State discriminates against the osteopath, does not commend itself to favorable consideration in this State. The reasons for this will be omitted here. In this State the rule is declared—"In the interpretation of statutes, it is the duty of the courts to resolve every doubt in favor of their constitutionality and to assume that the Legislature, in their enactment, acted in good faith for the public good."

He gives the definition of what constitutes the practice of medicine, as defined in the act of 1903, which embraces the osteopath, and the mode or manner of determining his qualifications to practice his profession. Here he further quotes extensively to confirm his views that it is in the province of the Legislature to prescribe what shall be the qualifications for the practice of medicine and what mode they shall be determined.

Discussing the act of 1903, he says that in the first place it will be observed that by the terms of the statute "applicants not belonging to the regular school of medicine shall not be required to stand an examination except upon the branches taught in their regular colleges." The statute then gives a list of certain branches applicable alike to all of the class of practitioners known as osteopaths. In the absence of anything appearing in the record to the contrary, it must be assumed that the legislative classification of branches prescribed for osteopaths represents the curriculum which obtains in their colleges, and the mere suggestion that such a course of study is unreasonable connot avail. It is submitted that the Legislature has found as a fact that the branches mentioned in the statute are those taught in the school of Osteopathy. There is certainly nothing unreasonable in requiring the applicant to undergo an examination upon the very studies taught in his own institutions. This statute applies to all persons in the same class, that is, to all osteopaths. In such cases the Legislature is the sole judge of the classification and the law being constitutional.

The defendant contends that the act of 1903 violates certain articles of the constitution of North Carolina. In defence of this, our Attorney General says:

"There is nothing in the statute which indicates any intention on the part of the Legislature to deprive any person of his rights. The object and spirit of the statute are clearly within legislative power, and its purpose is to prevent the incompetent osteopath from practicing his profession. The contention of the defendant that the act describes all others than the adherents of the two schools mentioned cannot be sustained." Here he quotes again as follows: "When intelligent and educated men differ in their theories, the Legislature has no power to condemn the one or approve the other, but it may require learning and skill in the school of medicine which the physician professes to practice."

Further along in his argument the Attorney General gives the second ground upon which the defendant bases his conclusion that the act is not constitutional. That refers to the composition of the Board. The Legislature, according to Mr. Gilmer, has the power to determine the composition of the Board, and the objection that the Board is composed entirely of allopaths cannot be sustained. In reply to this suggestion, the Court of Ohio states that this objection could not be maintained, and we do not understand that it is plausible that the Board of Medical Examiners must be so numerous a body that it must have a member of every existing or possible school.

Here he quotes from the Iowa Court decision: "Much is said in argument about the composition of boards as to the different schools of medicine, but, as the statute does not require that the different schools shall be represented on the Board, its composition cannot affect its jurisdiction or the legality of its act in the respect under consideration."

Anticipating a monopoly clause in the brief of the counsel for the defendant, the Attorney General states that such an argument is without foundation, and here he quotes to sustain this statement as follows: "The State has an interest in the life and health of all its citizens, and the law under examination was framed, not to bestow favors upon a particular profession, but to discharge the highest duties of a State, that of protecting its citizens from injury and harm."

Resuming his argument, Mr. Gilmer says the defendant does not possess any natural right to practice his profession, which is not subject to the control of the Legislature, restricted only by positive provisions of the Constitution.

As insisted hereinbefore the statute of 1903 imposes no unreasonable burden upon the osteopath, for it limits his examination to those branches taught in his school of medicine. We will not venture upon the field of technical knowledge for the purpose of endeavoring to show that the branches of study prescribed by the statute are reasonably necessary in order to render an osteopath competent to properly discharge the duties imposed upon him respecting his peculiar school.

It appears, however, from the record that the appellant offers himself as a physician, ready and able to treat almost every disease, and to furnish discriminating treatment to those who seek the benefits of his ministrations; and while he may rely upon manipulations, rubbing and kneading of the bones and muscles of the system, yet he professes to have skill which will enable him to adapt his method of treatment to each individual case. Before this can be done it is necessary for the appellant to be able to correctly diagnose each case. He should, therefore, be "groundly learned" and "profoundly studied," particularly in anatomy, histology, neurology, hygiene, physiology and physical diagnosis, and, indeed, in the other branches mentioned in the statute. It may be insisted that the osteopath need not undergo an examination on toxicology, but we submit that he should be able to correctly diagnose a case of poison and the antidote which should be applied, for what good would the mere rubbing of the body do when the deadly virus courses through the veins of the serpent-bitten victim, hurrying him to certain death? A knowledge of the other branches mentioned in the statute certainly is necessary to render the osteopath proficient in the discharge of his duties, and to protect the people from his incompetency.

Here he quotes from the Supreme Court of Michigan as follows: "A great majority of the public know little of the anatomy of the human system, or of the nature of the ills that human flesh is heir to; and there is no profession, no occupation or calling where people may be more easily or readily imposed upon by charlatans. It is almost an everyday experience that people afflicted with disease will purchase and swallow all sorts of nostrums because some quack has recommended it."

We have only given a part of Mr. Gilmer's brief which he has so ingeniously and intelligently, it seems to us, prepared in this case. If the defendant is not convicted, or the lower court sustained by the higher court, it will be very difficult to word a law which will incorporate this irregular system of the practice of medicine which has in a small way entered the borders of our State.

HOSPITALS OF THE UNITED STATES.

A recent number of the National Hospital Journal contains an interesting account of the hospitals in this country, especially their history since 1878. According to this authority there were but 442 hospitals in the United States at that time. They have gradually increased until now there are 2,500 regular institutions called hospitals. If all the institutions providing hospital facilities were included, the number would reach 4,000. The total bed capacity of these institutions is 300,000, or about one bed to every three hundred people. New York leads all other States in the number of hospitals, having 350 with a bed capacity of 75,000. This gives New York a bed for every one hundred of its inhabitants.

California has 125 hospitals with a bed capacity of 12,000, or a bed for every 125 people.

Massachusetts has a great many hospitals. The exact number is not given in this account, but the statement is made that it has a hospital bed for every 150 of its inhabitants.

Washington has a hospital bed for every 175 persons living in that State.

It is a question whether to rejoice over the increase in the number of hospitals throughout the country or not. There is no doubt that physicians connected with a well regulated, systematically conducted hospital with skilled, painstaking officials, can do better work and cure and please a larger per cent. of sick people than they can when the patients are left at their homes. Large charitable institutions whose attendants and officials are paid by the city or State, are usually the most unsatisfactory and of the least benefit to the community. They are supposed to be a necessity, and I suppose they are. At the same time irregularities are more prevalent in this class of hospitals than in any other. The patients are the first to suffer either from lack of attention or sympathy, and in many cases from too much surgery. An ideal hospital for sick people is a small one, conducted and managed by its owners, who should be physicians or surgeons, and it should be dependent, as they usually are, upon its income received from patients for its support. Usually, when these conditions exist, the policy is to give something in return for what it receives—they try to do good work and to please the patients. This is the kind of a hospital for sick people to go to receive all the benefits of hospital treatment, which are no doubt superior to the care and comfort that any one can receive at home. They supply a care and comfort which are essential to the treatment of the sick—things which cannot be obtained in the homes of even the rich, certainly not the poor.

The benevolence of hospitals has been much abused for several years, not only by the lower and middle class of people, but even the rich often take advantage of free treatment in the large hospitals. This, however, is due to lax, bad management on the part of the officials, especially the physicians and surgeons connected with these institutions. It is an irregular professional act, a financial mistake, and an injustice to themselves and to the profession for a physician or surgeon to be indifferent, or to overlook his duties when dealing with the finances connected with his practice. A great many hospitals suggest to patients, especially if it is an interesting surgical case, that if they will pay their board at the hospital their medical and surgical treatment will be free. This is a financial suicide to those who practice it. Usually it takes money as well as intellect and study to become prominent and proficient in any special line of work, certainly in our profession where this kind of training is so expensive, and where so many instruments and appliances are required to equip a physician or surgeon to do work equal to or superior to that of his neighbor. Where you see well equipped hospitals, even if they are small, you will see aggressive, skilled physicians and surgeons who can operate upon and care for the most difficult and complicated cases. Patients should go to them instead of going off to more eminent and better known specialists in the larger cities.

Book Notices.

Nose and Throat Work for the General Practitioner.—By George L. Richards, M. D., Fellow American Laryngological, Rhinological and Otological Society; Fellow American Otological Society; Associate Editor Annals of Otology, Laryngology and Rhinology; Otologist and Laryngologist Fall River Union Hospital, Fall River, Mass. Pages 336. Price cloth, $2.00. International Journal of Surgery, Co., 100 William Street, New York.

Books on nose and throat abound, but this book is different from the others. The book derives special importance from the fact that the diseases described therein constitute so large a share of the physician's daily routine of practice. It has been the author's aim to teach the practitioner how to diagnose these cases and how to treat them successfully and according to modern methods. With this object in view every effort has been made to describe the treatment in such detail as to leave no point obscure, and to simplify the technics as much as possible so as to avoid the necessity of an elaborate and expensive armamentarium. No space is occupied with theory, and the information given is based for the most part upon the author's own extensive clinical experience in diseases of the nose and throat. For the sake of completeness a number of conditions are discussed which properly belong to the specialist, but with these few exceptions the diseases are such as can be treated by the general practitioner. The book is written in a very clear and interesting style. A noteworthy feature of this work is the large number and excellence of the illustrations.

Hale's Epitome of Anatomy. A Manual for Students and Physicians. By Henry E. Hale, A. M., M. D., Assistant Demonstrator of Anatomy College of Physicians and Surgeons (Columbia University) New York. In one 12mo volume of 384 pages, with 71 illustrations. Cloth $1.00, net. Lea Brothers & Co., Publishers, Philadelphia and New York 1903.

Anatomy is the very foundation of all medicine and surgery, and the student is fortunate in having as his text-book a work of such admirable simplicity and wonderful teaching power as "Gray." This marvelous volume frequently and aptly called "the Bible of Medicine," has more than held its own in the face of the many would-be competitors which have been so desperately pushed during the past fifty years, and is to-day more widely used than ever before. Unfortunately, however, its size prohibits its use for study under all circumstances, and the medical student, or the candidate brushing up for State Board Examinations must often take advantage of every opportunity for reading.

Just here is where the Epitome of Anatomy finds its field. Dr. Hale has given the essence of the entire science in a convenient little volume which may be carried in the pocket and may be read a hundred times and places when and where it would be inconvenient to read "Gray." The complete outline of Human Anatomy is given, every step being taken in natural sequence, so that the student gets a correct perspective of the entire subject into which the details from his "Gray" may be readily fitted. Moreover, for the convenience of quizzing, as well as for self-examination, a series of practical, pertinent questions is placed at the end of each chapter in small type, taking up little room, where they may be used or not. This is an improvement over the old plan of separating paragraphs with questions, which interfere with connected reading or study.

Illustrations are used throughout the volume wherever the understanding can be better helped by the combination of text and pictures, and the price of this volume ($1.00), based upon the certainty of a very wide usage, is low enough for every student's purse.

Ewing on the Clinical Pathology of the Blood. New (2d) edition. A Treatise on the General Principles and Applications of Hematology, by James Ewing, M.D., Professor of Pathology, Cornell University Medical College, New York. New (2d) edition, revised and enlarged. In one octavo volume of 492 pages, with 43 engravings and 18 full page colored plates. Cloth, $3.50, net. Lea Brothers & Co., Publishers Philadelphia and New York.

The exhaustion of an entire edition of a work on a special department of medicine in less than two years is a phenomenal record, and very satisfactorily shows the success which has attended Dr. Ewing's effort to furnish a clear, trustworthy and practical presentation of a subject which, though special, is rapidly impressing its great importance upon the profession. Dr. Ewing's work not only met with a prompt and warm welcome from practitioners, but it was at once adopted in nearly every medical college in which Hematology was given such attention that a text-book was required. The second edition is now ready, and the following excerpt from the preface not only shows the changes which will be found in the volume, but also affords an interesting indication of the advances that are being made in the subject.

"During the past two years the contributions to the knowledge of the blood in both its clinical and its pathological aspects have been very numerous, and, in many instances, of fundamental importance. In the present edition the author has endeavored to incorporate the results of these recent studies in such form as will be found available both for the practitioner and for the student. This undertaking has required references in the text to about four hundred new articles on monographs, which have been added to the bibliographical lists. Among the changes thus introduced are considerable additions to the chapter on Technics; the Serum Test for Blood, and the subject of Cryoscopy. The discussion of the Morphology of Blood Cells has been enlarged. Some noteworthy additions to the knowledge of Leukemia have been included in that chapter. The essential features of Ehrlich's theories on immunity have been presented.

The volume shows considerable increase in size and in the number of engravings and plates, but as the indications all point to a still greater sale, the price of the work has not been increased.

The Practice of Obstetrics. Designed for the use of Students and Practitioners of Medicine. By J. Clifton Edgar, Professor of Obstetrics and Clinical Midwifery in the Cornell University Medical College, etc. With 1,221 illustrations. Cloth $6.00. Philadelphia. P. Blakiston's Son & Co. 1903.

This is the most pretentious volume upon obstetrics we have had the pleasure of reviewing. The large number and the uniform excellence of the illustrations attracts the attention of the reader at once, there being no text-book, perhaps, which so demands the illustration for a proper understanding of even an unusually lucid text-book as the one upon obstetrics.

At a glance, also, the reader knows the book has been written by a clinician of close observation and wide experience.

The subject is originally divided, as follows: I. The Physiology of the Female Genital Organs; II. Physiological Pregnancy; III. Pathological Pregnancy; IV. Physiological Labor; V. Pathological Labor; VI. Physiological Puerperium; VII. Pathological Puerperium; VIII. The Physiology of the Newly Born; IX. The Pathology of the Newly Born; X. Obstetric Surgery.

The whole subject has been so thoroughly considered in every detail that it would be invidious to take them up seriatim. It is decidedly the most thorough work we have had the pleasure of reviewing, and no practitioner can afford to be without a copy. Certainly no book has ever been published on this subject that is superior to this.

Atlas of the External Diseases of the Eye. By Prof. Dr. O. Haab, of Zurich. Second Edition, Thoroughly Revised. Edited, with additions, by G. E. DeSchweinitz, A. M., M. D., Professor of Ophthalmology in the University of Pennsylvania. With 98 colored lithographic illustrations on 48 plates, and 232 pages of text. Philadelphia, New York, London: W. B. Saunders & Company, 1903. Price $3.00 net.

This Atlas on External Diseases of the Eye forms an excellent companion-book to Professor Haab's "Atlas of Opthalmoscopy and Opthalmoscopic Diagnosis," and is just what might be expected from an author of such broad clinical experience and trained observation. Starting with examination of the eye the student is easily and gradually led from one examination to another, thus becoming familiar with the best methods of investigating the eye for the detection of disease. In the chapters on diseases of the eye which follow, the most important diseases are clearly described and the best therapeutic measures recorded. The text has been amply illustrated by a series of beautiful chromo-lithographic plates, to each one of which a clinical history is appended. This second edition has been thoroughly revised and brought down to date, and a number of new chromo-lithographic plates added. As in the first edition valuable editorial comments are introduced, and reference made to many of the modern therapeutic agents.

Egbert's Hygiene. New (3d) edition. A Manual of Hygiene and Sanitation by Seneca Egbert, M. D., Professor of Hygiene in the Medico-Chirurgical College of Philadelphia. New (3d) edition, enlarged and thoroughly revised, in one 12mo. volume of 467 pages, with 86 illustrations. Cloth $2.25 net. Lea Brothers & Co., Publishers, Philadelphia and New York.

The demand which has so soon made possible and necessary a new edition of this work proves two things conclusively—the interest of the profession and laity in Hygiene and Sanitation, and the authors success in furnishing a clear, trustworthy and complete resume of his important subject. Dr. Egbert is to be congratulated upon this exceptionally valuable little volume. It is thoroughly practical, clear in every detail, and contains an enormous amount of authoritative information. The present edition has been carefully revised to date. Every line has been scanned for a possible chance for improvement, and notwithstanding the author's care to keep it as concise as possible, and his endeavor to prune carefully, both the old and the new growth, the volume has increased by more than one-third over its original size. This growth in size and corresponding cost has, however, been off-set by the increased demand, so that the publishers have not been obliged to advance the price of the book.

If, then, the most modern, complete, trustworthy, interesting and practical manual on Hygiene is wanted by student, practitioner or layman, that demand is most satisfactorily met by Egbert.

International Clinics. Edited by A. O. J. Kelly, M. D., Philadelphia. Volume III. Thirteenth Series. 1903. Philadelphia: J. B. Lippincott & Co. Cloth. 8vo. Pp. 305.

This "Quarterly of Illustrated Clinical Lectures and Especially Prepared Original Articles" is taken up with papers on "diseases of the gall bladder and gall ducts"; on treatment of various diseases, as pneumonia, gastric cancer, carbonic acid treatment of rectal diseases, serum treatment of typhoid fever, etc.; on various subjects of medicine, as the malarial infections, clinical types of pneumonia, sudden death due to respiratory disorder, a form of leukæmia, intermediate in type between the lymphatic and spleno-medullary forms; and clinical evidence of myocardial damage in rheumatic fever. In surgery, we find papers on cocain anesthesia—operation for varicocele; on general anesthesia; asepsis and antisepsis; gastrotomy; concussion of brain; intra-scrotal tumors; and on the modern treatment of varicose veins. There is scarcely a practitioner that is not interested in one or more of the subjects named, and if he reads these lectures or articles he is sure to gain some points of practical value to him.

Transactions of the Medical Society of Georgia, 1903.

This large volume of proceedings of 434 pages, neatly bound and printed, is an evidence of the activity of the medical profession in Georgia. This volume contains many valuable papers and interesting discourses. It also has a great many beautiful illustrations. The Society has about five hundred members.

Roger on Infectious Diseases. Their Etiology, Diagnosis and Treatment. by G. H. Roger, Professor Extraordinary in the Faculty of Medicine of Paris, etc., translated by M. S. Gabriel, M. D., New York. In one octavo volume, of 864 pages, with 43 illustrations. Cloth $5 75 net. Lea Brothers & Co., Philadelphia and New York, 1903.

This volume comprehends almost the entire scope of internal medicine and touches upon many of the principles underlying modern surgery as well. It could not have been prepared by a laboratory investigator however brilliant, nor by a clinician however extensive his experience; its creation remained for one who combines the instincts and training of a student in original research with almost unprecedented opportunities for clinical investigation.

Never losing sight of the fact that the purpose of the laboratory is to amplify and explain clinical observations, Professor Roger has pursued clinical and experimensal researches in the closest relation to each other. In this work he unfolds the knowledge of his subject by simple and practical methods. He first studies the pathogenic agents, inquires into their distribution in nature, the conditions under which they attack man and their modes of invasion. Full consideration is then given to their influence upon the human economy and the reaction of the latter upon the invaders. Ample time and space are devoted to questions of diagnosis and prognosis, and that the work is eminently practical is shown by the fact that more than a quarter of the volume is devoted to Treatment, both preventive and curative.

Professor Roger has had opportunities for the study of infectious diseases which rarely fall to the lot of any man. In the hospitals under his charge are received all cases of contagious diseases which occur in Paris, and he has personally attended more than 10,000 patients during a period of five years. The effect and purpose of this work is to harmonize any seeming antagonism between experimental researches and clinical observation and to reduce the theories of infection and immunity to a basis of practical utility.

Transactions of the Association of American Physicians, 1903.

This volume of 716 pages contains an immense amount of valuable reading matter. The proceedings of no society or association of physicians in this country can boast of such a handsome volume of transactions. It contains hundreds of illustrations and articles by men nationally known in medical circles. Dr. Solomon Solis Cohen, of Philadelphia, is Secretary.

The Medical News Visiting List for 1904. The Weekly, Monthly and 30-Patient Perpetual, contains 32 pages of data and 160 pages of classified blanks. The 60-Patient Perpetual consists of 256 pages of blanks alone. Each in one wallet-shaped book, bound in flexible leather, with flap and pocket, pencil and rubber, and Calendar for 2 years, $1.25. Thumb-letter index, 25 cents extra. By mail, postpaid to any address. Lea Brothers & Co., Publishers, Philadelphia and New York.

The text portion of The Medical News Visiting List for 1904 has been thoroughly revised and brought up to date. It contains among other valuable things, a scheme of dentition; tables of weights and measures and comparative scales; instructions for examining the urine; table of eruptive fevers; incompatibles, poisons and antidotes; directions for effecting artificial respiration: extensive table of doses; an alphabetical table of diseases and their remedies, and directions for ligation of arteries. The record portion contains ruled blanks of various kinds, adapted for noting all details of practice and professional business.

Printed on fine, tough paper, suitable for either pen or pencil, and bound with the utmost strength in handsome grained leather, The Medical News Visiting List is sold at the lowest price compatible with perfection in every detail.

Functional Diagnosis of Kidney Disease, with Especial Reference to Renal Surgery. Clinical Experimental Investigations by Dr. Leopold Casper (Privatdocent an der Universitaet), and Dr. Paul Friederich Richter, (Assistent der III Med. Klinik), in Berlin. Translated by Dr. Robert C. Bryan, Adjunct Professor Genito-Urinary Diseases, University Medical College, Richmond, Va., and Dr. Henry L. Sanford, Resident Surgeon Lakeside Hospital, Cleveland. Pages 227. Price, cloth, $1.50, net. P. Blakiston's Son & Co., Publishers, 1012 Walnut St., Philadelphia. 1903.

The delight with which German physicians enter into research work carries them through the most conscientious and painstaking details, with the result that their labors when published represent the best work. Both Casper and Richter are well known and respected investigators, and the late advances in physical chemistry, together with the introduction of ureteral catheterization into medical practice have opened an attractive field for their work. The translators have done their work with care, recognizing the newly aroused and widespread interest in this important branch of diagnosis in this country. The advantages to patients from a more delicate and a more absolute diagnosis are not to be doubted, and the theories advanced by the German writers have been thoroughly confirmed and established in practice. The chief question in diagnosis of kidney trouble must be whether or not, in the event of the removal of a deceased organ, the other will be able to do the work previously performed by two. The double organ must be treated from both sides; and it is in determining important points in this very matter that the two writers have done their best work.

A number of clinical reports, the best methods of diagnosis, and the results of carefully conducted experiments make up the text, which can scarcely fail to be both important and valuable to the surgeon and the physician alike.

E. B. Treat & Co., New York, make the following announcement:

In Press.

The Blues (Splanchnic Neurasthenia) Causes and Cure. This form of nervous weakness is so common as to render this volume of more than theoretic interest. By Albert Abrams, M. D., F. R. M. S., 8vo. 230 pages, illustrated, $1.25.

Diseases of Metabolism and Nutrition; Part IV, Autointoxication. Py Prof. Dr. Carl von Noorden, Physician-in-Chief to the City Hospital, Frankfort-on-Main, and Dr. Mohr. Authorized American Edition. Edited by Boardman Reed, M. D. Small 8vo. 80 pages, 50 cents.

We have also recently issued the following books:

Plain Hints for Busy Mothers. By Marianna Wheeler, Superintendent of the Babies' Hospital, New York. Flexible Leatherette, 35 cents.

Treatment of Disease by Physical Methods. Lectures on Electricity, Massage, Baths and Exercise. By Thos. Stretch Dowse, M. D. (abd) F. R. C. P. (Ed.) 4th ed., small 8vo. 454 pages, illustrated, $2.75.

Diseases of Metabolism and Nutrition. A series of Monographs. By Prof. Dr. Carl von Noorden, Physician-in-Chief to the City Hospital, Frankfort-on-Main, and assistants. Authorized American Edition. Edited by Boardman Reed, M.D., Philadelphia. I. Obesity, small 8vo. 60 pages, cloth, 50c; II. Nephritis, small 8vo. 112 pages, cloth $1.00; III. Colitis, small 8vo. 80 pages, cloth 50c.

Medical and Surgical Electricity. Including X-Ray, Vibratory Therapeutics, Finsen Light and High Frequency Currents. By A. D. Rockwell, A. M., M. D. New and Enlarged Edition, Royal Octavo, 672 pages, illustrated; half Mor. $6.00, Cloth $5.00.

Literary Notices.

There are three or four authors who have a faculty of interesting every class of readers. Among these is Mr. H. G. Wells, whose "War of the Worlds" proved one of the most popular tales ever printed in a magazine. The November Cosmopolitan contains the first installment of Mr. Wells's new scientific romance, "The Food of the Gods," fascinating in plot, holding the interest of the reader by its thrilling situations, yet having throughout a philosophic vein characteristic of all the author's work. The story is marvelous, yet plausible, intensely interesting, yet instructive.

The *Review of Reviews* is keeping up its reputation as the best interpreter of the news of the day among our monthly journals. The November number deals with the postal investigation, the fall elections, the recent exposures of "high finance" in trust organization, the Panama Canal situation, the award of the Alaska boundary tribunal, the protectionist movement in England, and the issue in the far East between Russia and Japan. Contributed articles describe "Men and Issues of the New York City Campaign," just closed; "The Nation's Print Shop and Its Methods,"—including a review of the famous "Miller case" and its outcome and the whole question of the status of labor unions in the Government Printing Office; "The Fort Riley Maneuvers," which began on October 15th; "The New Springfield Rifle and the Improvement in Small Arms;" "Galveston's Great Sea Wall;" and "The Rebirth of the Japanese Language and Literature,"—a history of the movement for the adoption of the Roman character in writing and printing, in place of the Chinese systems of picture-writing. Dr. George F. Kunz writes an authoritative account of the discovery of radium, and the uses and properties of that wonderful element. In this number also appears the defense of Russia's policy in Finland, which was addressed last month by Minister de Plehve to Mr. W. T. Stead. Altogether a typically "live" number.

Abstracts of the Leading Articles of the Month.

Birth Palsies.

Bochroch (*New York Medical Journal*) says that in spontaneous labor one should not be in too great haste to deliver the trunk. The latter should be left to nature, or should be helped by means of expression. Only in cases of necessity should traction upon the head be made, and even then the head should be flexed laterally only so much as is absolutely necessary to conform to the necessity in the case. If it is found necessary to hook the axilla, too great traction should not be made.

During extraction by means of forceps, expression should be used as an assisting factor, presupposing that the shoulders meet with an obstacle at the entrance of the pelvis. One should remember Walcher's hanging position, and bring the forceps not far outside of the direction of the axis of the body. By this, however, is not meant that the slight pendulum movements sanctioned in text-books should be omitted. Danger only arises when there is a deviation from thirty degrees, but a slight pendulum movement is not prohibited.

During extraction by means of the feet, the arms should be quickly attended to, in case they are interfering, by means of Mauriceau's procedure—*i. e.*, by placing a finger in the mouth of the child and using the arm to assist in the traction, resorting in grave cases to expression, and if necessary to Walcher's position.

If the extraction of the head offers considerable difficulty, this may be considered as an indication for the application of the forceps to the after-coming head, in order to avoid stretching the nerves of the axilla.

The treatment of brachial palsies may be both surgical and medical. The resulting palsy is sometimes so serious that the expedient of exposing the brachial plexus should be fully considered, It is not impossible that in some of these cases nerve strands are actually torn across. In such cases nerve suturing would be indicated. Whether it could be carried out in practice is a problem for the surgeons.

The treatment of a brachial palsy, when once established, resolves itself into the employment of massage and electricity. How limited the results are is well known to all. In some cases, it is true, brachial palsies disappear more or less markedly, but this is not the rule when the condition is present in a typical degree. In this connection it should be added that the arm must not be allowed to hang helpless at the side, but should be supported in a sling or a Valpeau bandage.

Genital Tuberculosis.

Targrett (*British Gynecological Journal*) says that in tuberculous subjects post mortem anatomy showed that the genital organs were affected in 7-7 per cent. of all cases, while at the Children's Hospital the proportion was as high as 7-5 per cent. Such disease was not primary, and the infection was either through the blood-stream or peritoneal cavity, or from external sources, but tuberculosis of the external genitals was very rare. The tubes were affected in 90 per cent. of all cases. The form of disease might be miliary, caseous, or suppurative. The diagnosis was difficult, especially when tubercular disease was not evident in other parts of the body. There might be amenorrhea, but dysmenorrhea was the rule, and generally there was pain in the pelvis. Caseous tuberculosis should be left alone; pus he considers implies a mixed infection, and the removal of the disease is often extremely difficult from the rottenness of the organs affected or of the adherent intestines, and is sometimes followed by rapid toxemia, but laparotomy with vaginal drainage when indicated is often beneficial.

The Germicidal Action of Alcohol.

Drs. Harrington and Walker (*Boston Medical and Surgical Journal*) have studied the germicidal action of alcohol, and conclude that: (1) Against dry bacteria, absolute alcohol and ordinary commercial alcohol have no germicidal power even with 24 hours' direct contact, and other preparations of alcohol containing more than 70 per cent., by volume, are weak in this regard, according to their content of alcohol—the stronger in alcohol the weaker in action. (2) Against the commoner, non-sporing, pathogenic bacteria in a moist condition, any strength of alcohol above 40 per cent., by volume, is effective within five minutes, and certain preparations within one minute. (3) Alcohol of less than 40 per cent. strength is too slow in action or too uncertain in results against pathogenic bacteria, whether moist or dry. (4) The most effective dilutions of alcohol against the strongly resistant (non-sporing) bacteria such as the pus organisms, in the dry state, are those containing from 60 per cent. to 70 per cent., by volume, which strengths are equally efficient against the same organisms in a moist condition. (5) Unless the bacterial envelop contains a certain amount of moisture, it is impervious to strong alcohol; but dried bacteria, when brought into contact with dilute alcohol containing from 30 per cent. to 60 per cent. of water by volume, will absorb the necessary amount of water therefrom very quickly, and then the alcohol itself can reach the cell protoplasm and destroy it. (6) The stronger preparations of alcohol possess no advantage over 60 per cent. to 70 per cent. preparations, even when the bacteria are moist; therefore, and since they are inert against dry bacteria, they should not be employed at all as a means of securing an aseptic condition of the skin. (7) Provided the skin bacteria in the deeper parts can be brought into contact with disinfectants, alcohol of 60 per cent. to 70 per cent. strength may be depended upon usually, but not always, to destroy them within five minutes.

The Significance of Pain and Tenderness in Cases of Inflammation of the Appendix.

Moullin (*London Lancet*) says that: (1) Absence of pain is no indication that the most serious mischief is not going on. On more than one occasion he has operated and found the appendix on the point of giving way in spite of the patient's protestations that he had never had more than a twinge of pain. (2) The initial pain of acute inflammation of the appendix which is so commonly referred to the umbilicus is due to the peristaltic action of the cæcum or of the appendix dragging upon the attachment of the peritoneum to the abdominal wall. This is especially likely to occur when the appendix is fixed by adhesions, or the mesentery is short or twisted upon itself. In one case of inflammation of the appendix in which Lennander was operating under local anesthesia, the slightest traction upon the anterior layer of the parietal peritoneum caused pain, which the patient spontaneously described as exactly like that which he suffered during an attack. (3) The cessation of this umbilical pain without improvement in the other symptoms is due to cessation of the peristalsis caused by the inflammation having spread to the muscular coat of the bowel. When this occurs the wall of the bowel is no longer able to contract, and this source of pain disappears. That this is so is shown by the fact which the author has often pointed out, that the cessation of the umbilical pain is coincident with the formation of a local swelling, which at this stage of the disease is due to the distention of the bowel and thickening of its walls by inflammatory exudation. (4) The development of local pain, which as a rule precedes by some short time the cessation of the umbilical pain, means that the inflammation has spread from the appendix to the parietal peritoneum or to the postperitoneal cellular tissue. These are the only structures concerned (at this period of the disease) which are supplied with nerves capable of transmitting the sensation of pain. Absence of local pain does not indicate anything. Severe pain is of serious import, as it implies either wide extent or great severity of inflammation.

Congenital Dislocation of the Hip.

Burghard (*British Medical Journal*) says: All cases should be checked by radiography, and that no "cure" should be spoken of that is not a true anatomical cure.

That all cases of congenital dislocation under fourteen years of age should be submitted to treatment. In the great majority improvement will result, while in some a true anatomical cure is brought about.

That in all these cases Lorenz's manipulations should be tried in the first instance. Even should they fail to effect reduction they faciltate any subsequent procedures.

That the prospect of a cure by Lorenz's bloodless method is in direct proportion to the youth of the child, and that after the age of four years there is little hope of a true cure by its means.

That in any case the chances of a true cure by the "bloodless method" are not very great.

That an open operation should be done whenever a radiograph shows that the "bloodless method" has failed to reduce the dislocation, except perhaps in the case of a very young child under three years, in whom the manipulation may be repeated.

That with the open operation no fear need be entertained of shock, bleeding, or sepsis.

That under no circumstances should the joint surfaces be remodeled.

That an open operation is more calculated to result in a cure, as it enables the surgeon to ascertain beyond a doubt when the head of the bone is really in the acetabulum.

That the open operation is especially suited for cases over four years of age, and for those of bilateral dislocation.

That after the operation the limb should be put up in the position of maximum stibility; in the majority of cases this will be similar to Lorenz's position. The limb should be put up in plaster of Paris immediately, and the casing should take in the flexed knee; this is essential in order to insure stability of the head of the bone.

That all tense structures should be stretched or tenotomized as a preliminary measure a week or so previously to the open operation. The after-treatment is practically identical with that of the Lorenz method

The Bacteriology of Acute Rheumatism

Walker (*London Practitioner*) consider the infectiveness of this disease certain The tendency at times to epidemic preva lence, the frequency with which it runs a definite course, in spite of treatment, its association with a marked paresis of the heat-regulating mechanism, leading also to other disturbances in the central nervous system; the occurrence of relapses, and its termination in certain cases by so-called malignant endocarditis, etc., etc., all speak in favor of its microbic origin. The author rejects the "mixed" infection theory as an etiologic factor, but thinks the agent to be single and determinate. The mixed infections are characteristically suppurative or terminal infections. From personal experiments the author is led to agree with Poyton and others, that a particular micro-organism, and no other, is constantly associated with acute rheumatic lesions, and is their casual agent. It is a tiny micrococcus, which is usually found, in ordinary films from artificial cultures, arranged in pairs and chains, staining with ordinary dyes, also with Gram's method, or by Weigert's modification of this method. In culture it is indistinguishable from an ordinary streptococcus. The author cleverly argues in favor of its being a specific organism, not an ordinary streptococcus in an attenuated form, as some believe it to be. Marmorek's interesting observation is thought to furnish a test for distinguishing it from other streptococci. Marmorek infers the identity of all streptococci—that of scarlatina possibly excepted—from the fact that they all refuse to grow in filtered culture fluid in which streptococcus has been previously grown and filtered out, though other organisms may flourish in such media. On two occasions, at least, he has shown that the rheumatic micrococcus did grow in such culture fluid, hence he thinks the inference justified to consider this test as suf ficient proof of its nonidentity with the ordinary streptococcus.

The Relation of the Thymus Gland to Marasmus.

Ruhrah (*The London Medical Lancet*) says that the most characteristic lesion of marasmus, excepting the wasting of fat and muscles, while known for many years, is not mentioned in any of the text-books on the diseases of children. This lesion is a wasting of the thymus gland. There are two conditions in which we see atrophy in infants—the primary cases, where the cause is as yet unknown, and the secondary cases, following definite pathologic conditions. All cases occurring in the course of the easily recognized diseases may at once be placed in the group of secondary cases—those following tuberculosis or syphilis, for example. Clinically, most cases are seen in infants which have had improper food and care. The assertion may be safely made that the trouble is not due to the amount of food ingested, or to the amount absorbed from the intestinal tract, but that it is due to the malassimilation of the food material in the body. Whether the thymus gland has anything to do with assimilation or not, it is certain that it bears a direct relation to the state of the nutrition of the body. It increases in size until about the second year, when it remains stationary, growing relatively smaller when compared to the size of the growing body. The function of the thymus is as yet unknown. The gland weighs about 12 gms. at birth. In 18 cases of marasmus the average weight of the gland was 2.2 gms. Excepting the terminal infection, the atrophy of the thymus was the only lesion found at autopsy. The changes in the gland consisted in a great atrophy. Histologically the fibrous capsule of the gland is thicker than normal, and the trabeculæ are greatly thickened and the increased interlobular tissue frequently cuts the lobules up into irregular masses. More reticular tissue and lymphocytes and leukocytes were present. In most of the cases there was increase in size and a hyalin degeneration of the Hassall bodies. The state of the nutrition of infants may be estimated by a microscopic examination of the thymus. In those of normal infants the structure of the thymus is unaltered and the differentiation between cortex and medulla is plainly visible. In moderate atrophy the cortex and medulla are not easily distinguished, while in severe atrophies the changes mentioned above are plainly seen. No changes were produced by the use of the gland in the dried form, as tablets, in cases of marasmus. The following conclusions were derived: (1) Atrophy of the thymus gland is always found in cases of infantile atrophy; (2) the condition of the thymus is an index to the general nutrition of the infant; and (3) the state of the nutrition in infants may be estimated by a microscopic examination of the thymus at the necropsy.

The Occurrence and Significance of Cutaneous Hyperesthesia in Appendicitis.

After studying the subject thoroughly, J. Sherren (*London Medical Lancet*) came to the following conclusions: (1) Cutaneous hyperalgesia is probably present at some time during all first attacks of appendicitis, except, perhaps, in the fulminating type, and depends upon tension within the appendix. (2) It may be absent in attacks after the first, if the first attack was of sufficient severity to destroy nerve tissue in the wall of the appendix. (3) When present in attacks subsequent to the first it often persists long after all other signs of the disease have gone, owing to the tension within the appendix being kept up by the presence of a stricture. (4) It gradually disappears during convalescence as the other signs of the disease clear up. (5) Disappearance of cutaneous hyperalgesia without improvement in the general condition of the patient, is a sign of perforation or gangrene of the appendix, and should be a signal for immediate operation. (6) The presence of cutaneous hyperalgesia is no contraindication to operation. Abscesses may form and general peritonitis may develop while it is present. (7) Its absence, on the other hand, is of great importance. Absence of cutaneous hyperalgenia, the patient coming under observation early in the first attack of appendicitis, is a sign of gangrene of the appendix unless the case is obviously a mild one and the patient is rapidly getting well. (8) Cutaneous hyperalgesia is, as a rule, absent in cases of abscess of the appendix. (9) The age of the patient and the position of the appendix have no influence upon the cutaneous hyperalgesia. (10) It is occasionally of use as an aid to the diagnosis of appendicitis.

Sweating of the Feet.

Merck's Archives recommends the following combinations in excessive perspiration of the feet:

℞.	Acidi salicylici,	gr. xv	1	
	Tannoformi	ʒiss	6	
	Pulv. orris,	ʒi	4	
.	Pulv. talci,	ʒiii	12	

M. Ft. pulvis. Sig.: Apply locally, or:

℞.	Formaldehyde,	ʒiv	15	
	Petrolati,	ʒii	8	
	Lanolini,	ʒiv	15	

M. Ft. unguentum. Sig.: Apply freely at night; or:

℞.	Pulv. acidi borici,	ʒi	4	
	Pulv. amyli,	ʒiii	12	
	Tannoformi,	ʒii	8	
	Olei caryoph,	gtt. i		06
	Olei lavendulæ	gtt. iii		20

M. Sig.: Use as a dusting powder.

In axillary bromidrosis the following is recommended:

℞.	Creolini,	ʒi	4	
	Ext. violet,	ʒiv	15	
	Alcoholis deod.,	℥iii	90	

M. Sig.: Wash the armpits with warm water followed by an application of the lotion.

Dietery for Goutily-Disposed Persons.

D. Duckworth (*Practitioner, August, 1903*) believes that gout is not purely an humoral disorder but is dependent on a neurohumoral pathogeny. It is not necessary to demonstate the presence of a uric diathesis. In any case it is certain that the pecant matter of gout is produced within the body, and is thus autotoxemic, not entering infectively from without as is the case in rheumatic or other varieties of toxemia. Also, the subject of gout, either by inheritance or acquirement, is so far peculiar in his constitution that he reacts differently to various agencies, such as climate, food, etc., from persons not so disposed. The metabolic processes of the gouty are abnormal. Many of the methods in practice relating to diet as well as to therapeutics for gout are founded on the principle of treatment for the *disease* and not for the *patient*. This is not the true clinical method and it constitutes a radical fault in medicine. There should be no treatment for gout and no special diet for the gouty, as such, but there is a treatment and a management for the paticular patient who manifests gouty symptoms. The author believes that the ordinary rules laid down in regard to the restrictions of the diet are not founded upon any rational principles and are frequently distinctly harmful. With respect to animal food generally, it may be declared that it is not only harmless but beneficial to gouty persons provided it be taken in moderation. The alleged difference between red and white meats he regards as nonsense. Fish, especially fresh and white, is one of the best articles of diet for the gouty. Lobsters, oysters, and most shell fish are quite innocuous, provided they are eaten in good condition. Viscera need not be excluded. With regard to vegatable food, it is hard to understand why plainly cooked potatoes should be excluded. Many dyspeptics are better able to digest separately a meal of proteids of carbohydrates but this is not peculiar to gouty patients. Fruit is condemned for very inadequat reasons. Some gouty people may be bette off without it, but most of them can tak fruit, raw and cooked, in moderation a proper times a day not only with impunit but with benefit. Tea, cocoa and coffee properly prepared are perfectly harmless The greatest consumers know nothing o gout. Certain vegetables, as spinach an the cresses are particularly valuable. Asparagus should be used sparingly. Respecting wines it is certain that the leas excess in any of them is harmful, and mos moderate drinkers take too much, but th fact remains that many are better for th use of a little good wine, taken with on meal in the day. There can be no universal rule as to the kind or amount. Mo varieties of malt liquors are harmful t gouty patients, and one of the earliest symptoms of the onset of the gouty habit is th inability to digest even small quantities malt liquor. In short, both the food and drink of each individual patient must be studied and put upon a rational basis. The level of health must be raised by every method available. Many commit no indiscretions in diet but their general tone is low and an improved and adjusted diet is helpful. The class of persons who live sumptuously with practically two dinners daily require other treatment. Relief will come not so much by omitting this or that article of diet as by a daily and systematic reduction of the whole amount consumed. What has especially to be forbidden is richly seasoned, greasy and twice-cooked food. Strong soups, cooked tomatoes, rhubarb, foods cooked with fat or sugar, large, mixed meals of animal and farinaceous foods, together with fruit and wine—all these are gout-provoking. Variety is apt to lead to excess. We have, in truth, many articles to select from, but the keynote of our prescription should be strict moderation in all or any one of them.

Gastric Troubles Resulting from Inflammation of the Female Genital Organs.

Liopel (*British Gynecological Journal*) says that statistics show more than ninety per cent. of those women who have hypogastric trouble suffer from gastric disturbance also. The cause of the latter may be either reflex or mechanical. In the former case, nervous gastric disorders are set up by the genital affection; in the latter, adhesions formed between the great omentum and the peritoneum of the inflamed organs in the small pelvis exert a drag upon the greatest curvature of the stomach, which causes not only the descent of that organ, but also a kinking of the duodenum. In reflex cases treatment should be directed to improving the general health; in others the adhesions should be separated after laparotomy. Drainage would of course be contraindicated.

The Local Injection of Potassium Iodide in Syphilitic Ulceration.

Duclaux (*British Medical Journal*) mentions another case of syphilitic ulceration of the leg with osteoperiostitis of the tibia cured by the local injection of potassium iodide to those already published by Labadie-Lagrave and Rollin in the *Bulletin Medical* of January 24, 1903. A child of twelve had undoubted syphilitic ulceration of the leg, and had undergone previous treatments for five months with little change. Duclaux at the suggestion of Kirmisson, under whose care the child was, administered eighteen injections, and at the end of a month cicatrization was complete. Each injection consisted of two cubic centimeters of a three-per-cent. solution of potassium iodide, and was given on alternate days. The pain following the injection was considerable, but only lasted from five to ten minutes. The thickening of the tibia slowly diminished, and the pain accompanying it ceased after the first few injections. A month after discharge from the hospital the cicatrix was firm and the tibia had nearly resumed its normal size.

The Artificial Feeding of Infants.

R. Hutchinson, in *The London Lancet*, summarizes as follows:

(1) The first essential in the artificial feeding of infants is to have a definite plan upon which to go and to avoid haphazard procedures. (2) Diluted cow's milk, condensed milk, and peptonized milk may be regarded as the positive, comparative, and supurlative of digestibility respectively, and should be tried in that order until the digestive power of the child is suited, due regard being paid to the details of administration above laid down. (3) Periodic weighing of the child is the only test of the succcess or failure of the food selected. (4) In cases in which even peptonized milk fails to give good results, great benefits often follow the administration of gray powder even in cases in which there is no reason to suspect a syphilitic taint. (5) In spite of all care in the use of above methods there remains a residuum of cases in which progressive wasting persists. Many of these seem to be babies who are unable to digest the casein of cow's milk in any form. (6) In such a case one should try to procure a wet-nurse for the child, and failing that one must eliminate casein from the diet by making whey the basis of the feeding mixture. (7) The use of a patent food as the sole article of diet for a baby is rarely if ever necessary so long as cow's milk can be obtained, either fresh or condensed. (8) If a child is unable to digest much cow's milk it is often worth while to try the effect of adding a little starchy food to the diet even at an early age, for inability to digest milk appears to be sometimes accompanied by an unusual capacity for the conversion of starch.

Autointoxication and its Relation to Disorder of the Nervous System.

Wyman (*Alabama Medical Journal*) states that autotoxemia is an etiological factor of great importance in many functional disorders of the nervous system; that these poisons produce symptoms by either lessening, retarding, preventing, or arresting the functional capacity of the nerve center by interference with the transmission of nerve impulses; that the disturbance involves both the central and peripheral neurons; that repeated and chronic autointoxication may lead to structural alterations in the nerve cells and fibers.

The Adams-Stokes Syndrome.

Bassoe (*New York Medical Journal*) says the Adams-Stokes symptom-complex is not a clinical entity. It may supervene in various diseases involving the heart, vagus nerves, or medulla oblongata.

It is particularly likely to set in when the upper part of the ventricular septum is diseased.

Arteriosclerosis is not essential for its production.

Its occurrence is a well-studied case of localized lesion of the intramedullary portion of the accessorious nerve supports the hypothesis that the inhibitory fibers of the heart are derived from this nerve.

A lesion of the ventricular septum is capable of producing bilateral degeneration of the extramedullary cardiac fibers of the vagus nerves.

The existence of bradycardia in a case with bilateral vagus degeneration proves the muscular origin of bradycardia in such a case, as the inhibitory influence of the vagi then must be absent.

The bradycardia is the fundamental feature of the Adams-Stokes syndrome. The nervous symptoms vary largely according to the susceptibility of the nervous centers to the circulatory disturbance induced by the bradycardia.

Aneurism of Left Subclavian Produced by Fracture of Clavicle.

William Taylor (*Dublin Jour. of Medical Sciences*, Sept. 1, 1903). The patient was quite healthy previous to a fall on his left shoulder. There was no history of syphilis. After the fall his fractured collar bone was treated for two weeks, when he came into the hospital and the pulsating tumor was noticed. The tumor was most prominent just at the site of fracture, and occupied the lower part of the left posterior triangle of the neck, extending forward underneath the sternomastoid and overlapping the broken fragments. There was pain, tingling and numbness in arm and hand, and a radial pulse much smaller than on the other side. A radiograph showed a spicule of bone projecting inward at right angles, and presumably the cause of the aneurism. In the upright position the tumor no longer seemed to pulsate, but in recumbency the pulsation was marked. In a difficult operation the artery was seized, the sac opened, the clots turned out, and a small opening the size of a large knitting needle found in the third segment of the artery. Three pairs of forceps were applied, one external, one internal and one just over the opening. Gauze was packed in to steady the forceps, and the arm supported on pillows and wrapped in wool. On the twelfth day the forceps were removed, and the patient, aged sixty-two years, is now quite well, free from pain, and has complete sensation in arm and hand. Power is gradually returning.

Paratyphoid Fever; Report of Four Cases; Analysis of all Reported Cases.

William B. Johnston (*American Journal of the Medical Sciences*) concludes that:

1. There is a type of disease due to infection with the paratyphoid bacilli which in all its variations presents a clinical picture identical with that frequently produced by infection with B. typhosus.

2. Diarrhea and a termination of the fever by crisis are apparently of more frequent occurrence than in typhoid fever.

3. Myosites and purulent athritis, rare complications in typhoid fever, have been recorded.

4. Though the disease may be severe, it is usually mild, and fatal cases are rare.

5. Absence of intestinal ulceration may prove to be a distinctive feature of the disease.

6. The disease, though widespread and occurring in localities where typhoid fever is present, is comparatively rare.

7. Every instance of negative Widal reaction is not due to infection with paratyphoid bacilli.

The Etiology of Inversion of the Uterus.

Schauta (*British Gynecological Journal*) has long held that inversion is brought about by the same and no other factors, whether it happens independent of childbed or during that period, and especially that contractions do not play any part in causing it. He defends this view and criticizes the various objections that have been brought against it by Treub, Thorn, and others. In his opinion every step in the process of inversion presupposes a relaxed condition of the uterus and the absence of contraction of any kind. The factors to be considered are temporary or permanent paralysis, atrophy, degeneration, and thinning of the uterine wall, which last may be due to myomatous growth. The invagination is then brought about by pressure o traction—the former due to the gradual o sudden action of abdominal pressure, the latter by some such cause as a myoma. An absolute condition should be possible; in the preliminary preparation of the cervix contractions of the uterus may or may no play a part.

Radium Rays in the Treatment of Cancer

Margaret A. Cleaves (*New York Medical Journal, Oct. 10, 1903*) reports the results obtained from the use of one gram of bromid of radium contained in a sealed glass tube, and having a radio activity of 7,000 in the treatment of two cases. One was a case of sarcoma involving the entire left cheek, and the other an inoperable primary pelvic case of epithelioma. Both cases had been under treatment, the first for five weeks, and the second for three months, by means of the X-ray and ultraviolet light. In the case of sarcoma there had been a steady loss under this method of treatment. Immediately after the first exposure to the radium rays the pain was relieved and the patient passed a more comfortable night than at any time before while under treatment. The local condition improved greatly, the ulcerated surface became clean and bright, and the general health of the patient also improved markedly. The second case had been greatly improved by the combined use of the X-ray and ultraviolet light, but the persistence of a discharge of blood from the rectum caused the author to use the radium rays as well. Only two exposures were made; at first there was some reaction which caused a slight increase in the local symptoms, but within five days after the second exposure, the local conditions had greatly improved and bleeding from the rectum ceased entirely. The profound physiologic action obtained by these short and infrequent exposures would seem to indicate that the more powerful activities and long exposures are not necessary. The results obtained in these two cases surely stimulate the hope that we have in radium a therapeutic measure of value over and above the X-rays.

Urinary Casts.

Emery (*Brooklyn Medical Journal*, October, 1903) states that the hyaline cast, the basis of all tube casts, is composed of some proteid derivative formed either of coagulable elements that have transuded into the renal tubules through pathological lesions of the latter or consists of a secretion of he pathologic epithelium lining the tubules or is the direct result of disintegration of he renal cells whose products make casts of the tubules in which they are formed, and appear in the urinary sediment.

Clinically the presence of hyaline casts nay denote a passive congestion, an irritable condition of the tubules, or inflammatory involvement of the kidneys.

Small hyaline casts without albumin need not be considered of special significance, particularly if few in number, or occurring n patients over 45 years old. When the hyaline cast bears granular material, such as blood or epithelium, it is pathognomic of renal disease, unless it can be proven that the detritus comes from the ureter or bladder.

Large hyaline casts in the urine of middle-aged men of strenuous business habits, if long continued, may be the early sign of interstitial nephritis. If in addition to the above there is a continued trace of albumin, it should excite our suspicion to the point of certainty, especially if the daily output of urea is much diminished.

The Action of Arsenic on Bone Marrow.

Stockman and Charteris (*British Medical Journal*) report researches on the changes in bone marrow of animals and man under the action of arsenic. Under small doses, in rabbits and dogs occurs hyperemic atrophy of fat cells, decrease in number or degeneration of giant cells, increase of leucoblastic cells, and little or no increase of erythroblastic cells. These changes are essentially similar to those produced under the action of many other foreign or poisonous substances, and constitute a reaction against these substances on the part of the marrow. The counting of blood cells and estimation of hemoglobin also support the view that arsenic does cause an increase in the number or quality of red cells. The changes in human marrow in cases of chronic arsenical poisoning were found to be essentially of the same character—leucoblastic, and not erythroblastic, with diminution in fat cells. The researches show that arsenic has no direct effect in increasing the production of red cells by the marrow. Its favorable influence in pernicious anemia, malaria, lympho-adenoma, leukemia, and some other diseases probably results from its effects on the parasites which cause these diseases, and not from any direct action on blood formation.

The Relations Existing Between Respiratory and Intra-pelvic Diseases.

Craig (*Boston Medical aud Surgical Journal*) says that his attention was first called to the relation existing between respiratory and intra-pelvic diseases by the fact that cases under treatment for the latter were invariably made worse by the acquiring of a cough or some respiratory disease. This was especially true in ovarian prolapse. By care he found the two conditions existing together too often for a mere coincidence. The congenital ovarian prolapses, he says, can be traced to violent coughing, as whooping cough, no symptoms manifesting themselves till after maturation.

The congestion during menstruation in

connection with a cough is harmful, and should be guarded against. The corset lessens the respiratory capacity and movements, and predisposes to pelvic troubles. By assuming the prone position the disengorgement of the pelvis is favored after coughing. Pelvic respiratory massage may be very beneficial in ovarian or pelvic involvement. This consists in having the patient assume the genu-pectoral or knee-elbow position and asperate the pelvic vessels by slow force-expiration about fourteen times a minute.

Oberst's Method of Inducing Local Anesthesia.

Struthers (Edinburgh Medical Journal, August, 1903) uses this name to a method of producing anesthesia by injecting a small quantity of a relatively concentrated solution of cocaine directly into the subcutaneous fissue round the nerves supplying a part, after arresting its circulation. The cocaine acts on the nerve trunks at the level of the injection, proximal to the operation area, and the entire part distal to the injection level is rendered anesthetic.

The Oberst method is practically limited to the digits and adjoining parts, regions not well adapted to Schleich's infiltration method.

The method is easy, satisfactory, and entirely free from danger. In anesthetizing a finger, a tourniquet is first applied at its base. Soft rubber tubing answers well; nor is great pressure needful, since circulation of the finger is readily arrested. After it is applied, 5 to 10 minims of a one-percent solution of cocaine is injected around each digital nerve distal to the tourniquet. After some minutes which must be allowed for the solution to act on the nerves (Struthers advises ten), the entire finger distal to the tourniquet is completely anesthetic, and operation on it from a small incision to an amputation may be done painlessly.

When the base of the finger requires operation and there is consequently no room for the application of the tourniquet on the finger itself, the constricting band may be applied at the wrist. The cocaine should then be injected on the palm and dorsum of the hand along the lines of the digital nerves.

This method was applied in more than fifty cases with completely successful results in all. In six cases where operations were required on the base of a finger or thumb, or on more than one digit, the circulation was arrested at the wrist. In all but one, a stout alcoholic, the anesthesia was satisfactory. In one case regional anesthesia was used on the penis. The rubber tubing was applied about one and a half inches behind the glans. One-per-cent cocaine was then injected along the lines of the dorsal nerves and on each side of the middle line below. In ten minutes the prepuce was completely anesthetic, and the patient was circumcised before he was aware that any cutting had been done.

"Pressure-Pouch" of the Esophagus.

Butlin (British Medical Journal) mentions the following as the symptoms in the diagnosis of this affection:

1. Return of fragments of undigested food, not immediately after the food has been taken, but many hours or even a day or two afterward.

2. Gurgling up of gas from the throat, particularly when pressure is made on the left side of the neck low down. This symptom is peculiarly distressing to the patient. There may be also a distinct bulging in this situation when food is taken, but this is not by any means a constant symptom.

3. A bougie is arrested about nine inches from the teeth; and if a curved metal instrument is used, the end can often be felt in the posterior triangle of the neck, almost always on the left side.

Other symptoms may be present in individual cases; wasting when the pouch has attained a large size; pressure symptoms, such as cough; possibility of introducing a full-sized bougie into the stomach in the early stages of the disease. Acidity of the returned food does not in the least contraindicate the presence of a pouch.

With regard to the operation he believes that it is not more dangerous to life than the cure of the disease will justify. In every instance the operation was performed on the lines prescribed by Professor von Bergmann, as follows:

1. In order to be sure that there is no stricture of the esophagus below the opening of the pouch, a bougie should be passed into the stomach from the mouth at the time of the operation. If this cannot be done before the wound is made in the neck, the pouch should be exposed, separated from the surrounding tissues, and drawn upward out of the wound. With a little manipulation a bougie can then be passed over its mouth.

2. If the pouch is of long standing, and if it is of large size, a soft tube should be passed from the mouth into the stomach and retained for so long as is necessary for feeding. If the patient cannot or will not permit this, or vomits up the tube, it must be passed over a guide every time food is taken, otherwise almost all the food will pass out through the wound in the neck. If this cannot be done, a tube should be in-

troduced into the stomach through the wound in the neck and retained there until healing is nearly accomplished.

3. The less the tissues below the pouch are disturbed the better. If they are widely opened up there is liability to septic inflammation spreading down into the posterior mediastinum.

4. No attempt should be made to close the external wound however carefully the opening of the neck of the pouch has been stitched up. It should be drained by means of a soft drainage tube. On the other hand it is very desirable to close the opening into the esophagus; for although the stitches always give way at the end of three or four days, the surrounding tissues are by this time sufficiently recovered to render spreading septic inflammation behind and below the site of the pouch very much less probable.

The operation appears to result in a speedy, complete, and permanent cure of the disease.

The Paroxysms of Whooping-Cough Treated by Pulling the Lower Jaw Downward and Forward.

Naegeli (American Practitioner and News) reports his experiences with this plan:

1. Pulling the lower jaw downward and forward controls the paroxysms of whooping-cough in most instances and most of the time.

2. The method is usually more successful in older children than in younger ones and in infants.

3. In cases without a whoop the expiratory spasm, with its asphyxia, is generally overcome, and in those with a whoop the latter is prevented.

4. As a single therapeutic measure for the control of the paroxysms, it deserves a place in the treatment of pertussis, and is as successful as any single drug, or even more so.

5. Mothers, nurses, and other attendants should be instructed in its use in order that the oncoming attacks, especially at night, might be arrested.

6. The manipulation is harmless, painless, and easy of application, without any of the ill effects of drugs; it offers a maximum good effect with a minimum derangement.

7. The only contraindication to its application is the presence of food in the mouth or esophagus.

8. The patients treated in this manner are less likely to suffer from complications and sequelæ than those treated only medicinally; they emerge from the disease in far better condition, less exhausted, and less emaciated, because voming has been controlled.

9. It is advisable to try the maneuver in other spasmodic coughs and laryngeal spasms (laryngismus stridulus, pressure of enlarged cervical and bronchial glands, influenza, and in glottic spasm in catarrhal laryngitis), although experience would seem to show that is far less efficacious in these conditions than in whooping-cough.

10. This method, being directed mainly to the control of the glottic spasm, does not preclude the advisability of supporting and sustaining the patient, guarding his gastrointestinal tract, establishing equilibrium in the nerve centers, and affording him every possible hygienic advantage.

11. It is particularly indicated in instances complicated with diffuse bronchitis, bronchopneumonia, convulsions, epistaxis, subconjunctival or subcutaneous hemorrhage, or sublingual ulceration, and in those children who by virtue of tender age, the presence of rachitis, scrofula, or general debility are predisposed to serious complications and sequelæ.

Acute Yellow Atrophy of Liver.

Clayton-Green (*The London Lancet*). The theory already advanced by others that the condition is one of toxemia with resulting changes in the viscera is the one which most satisfactorily explains the clinical and pathological features, and the source of the toxemia is in all probability the intestinal tract. It is true that so far no lesions have been described there, but that detracts little from the value of the explanation, since it is quite possible for an infection of great magnitude to be started from a lesion so small as to be overlooked, as is the case in so-called "idiopathic tetanus." With regard to the pigment found post mortem, he thinks it is strongly suggestive of hemolytic action of the poison causing the disease. The writer does not think that a liver showing the amount of destruction that was shown in his case could have been capable of elaborating any pigment; nor was there sufficient iron present in the liver to warrant the assumption that the blood cells were destroyed there. The suggestion that the pigment had been stored up in the liver, and was set free with its destruction, is, he thinks, inadequate. Again, there is a close relation between the amount of pigment and the fatty change. Wherever the pigment was most thickly deposited, there the fatty change was most advanced. This, the author thinks, allows of the suggestion being made that the pigment is a poisonous product of hemolysis, a combination of toxin and blood pigment capable of producing cell pigmentation and destruction in various parts of the body. A similar phenomenon has been observed by some American workers in relation with cirrhosis of the liver, pancreas, etc., and the term "hemochromatosis" has been applied to it. In those cases, as in this, the suggestion has been put forth that the pigment is poisonous. He would urge that the case, from a pathological and clinical standpoint, would support the view that the disease is not primarily hepatic in origin, the liver only suffering with the other parts; that there is a hematic infection with micro-organisms or their toxins with subsequent hemolysis; that there is a combination of toxin and blood-pigment to form a poisonous compound which is injurious to the tissues and causes their discoloration; that the liver must be absolved from the charge of forming the pigments, but that it is formed in the blood vessels themselves; and that the source of the mischief must be looked for in some part of the alimentary canal.

Tuberculosis of the Nervous System.

Trevelyan (*British Medical Journal*, Nov. 7, 1903) mentions the various forms which the tuberculous infection may assume in the nervous system. These forms consist of tuberculosis of the dura mater, tuberculous meningitis in its more general and limited forms, tuberculous masses in the brain and cord, and a possible miliary tuberculosis of the brain itself. As to the limited meningitis, he has nine cases in his series in which a localized thickening over a limited area of the cortex was noted; the most marked case was in a boy of seven years. Tuberculous masses in the brain are not infrequent. The relatively rare tuberculous tumors of the dura are nearly invariably multiple, and grow from its inner vascular surface in the posterior fossa or from the falx cerebelli. As to the mode of infection of the brain and meninges, it is admitted that a complete examination almost invariably reveals an older tuberculous focus somewhere in the body. The actual infecting focus may exceptionally be small and easily overlooked, and it is plain to see that the oldest lesion is not necessarily the infecting one. The route by which the bacilli travel from the infecting focus to the meninges or brain is far from being satisfactorily worked out. It is either by the blood or lymphatic vessels. It is strange that the lesions of the ordinary tuberculous miningitis should, as a rule, focus themselves about the middle cerebral artery and its branches, whereas tuberculous tumors are more frequently found in the distribution of the basilar and posterior cerebral arteries. The points of importance, according to the writer, in the examination of the spinal fluid are the presence of the tubercle bacillus and lymphocytes in the deposit, and the results of the inoculation test. Although the writer cites some remarkable recoveries from severe tuberculous meningitis, he declares that the prognosis must still be looked upon for practical purposes as hopeless.

Climacteric Insanity.

Savage (*The London Lancet*, Oct. 31st, 1903) says that while insanity may come on in people who have ceased to menstruate prematurely, yet the majority of cases are coincident with the ordinary climacteric —from forty-five to fifty years of age. Single women are oftener affected than married women, and widows oftener still. A climacteric should be recognized in men as well as women, though it usually is not. A large proportion of cases of climacteric insanity are associated with the use of alcohol. At first the usual clinical symptoms of the climacteric are exaggerated, passing into changes and accentuations in the individual—defective control, impulsive acts, hallucinations of sight, etc. Kleptomania is most commonly met with in the climacteric woman. The mental disorders are in most cases of a depressed type, melancholic and hysterical, with ideas of persecution. These ideas may pass into a definite melancholia, and many patients make an end of themselves by drowning, etc. In other cases with the expiration of the reproductive functions there may be accentuation of lust or passion. The mania seen in such cases is generally the result of some abnormity in the reproductive organs with eroticism, obscenity, etc. Masturbation is very common. Next to melancholia, the most common form is delusional insanity with ideas of persecution. The prognosis of climacteric insanity is better than that of other forms —cases may last four or five years and yet recovery ensue. Fully organized ideas of persecution, lasting one or two years, are rarely recovered from. Contrary to the usual belief, the onset of the climacteric exerts no influence on insanity which has arisen previous to the menopause.

Dangers of Plugging in Epistaxis.

Landouzy (Medical Press) mentions some of the contraindications of plugging the nasal fossæ in epistaxis.

Apoplexy may result from this procedure, and reference is made to a number of cases in which this has been the result, especially in the aged. In one case plugging with perchloride of iron seems to have produced erysipelas with very grave symptoms.

Nasal hemorrhage opening the vessels of

the pituitary lowers the threatened arterial hypertension, frequently relieving the vessels of the brain and conducing to the safety of the patient.

The treatment should not be begun by plugging the anterior and posterior orifices. In young persons with healthy arteries this might be permissible, but plugging the nasal fossæ in aged persons is dangerous. Perchloride of iron should never be used.

Simple methods should be tried first, as pinching the nose, elevation of the arms, cold water, key down the back, etc. Afterwards small plugs steeped in a solution of antipyrin may be applied through the anterior nares, or the nasal passages may be irrigated with hot water. These methods will be sufficient to at least moderate the hemorrhage, if not to arrest it. It is better in any case that the vessels open in the pituitary membrane than in the brain.

Dry cupping in the lumbar region, purgatives, mustard foot-baths, applications of hot water to the abdomen, should all be resorted to before plugging.

Studies on the Action of Alcohol in Disease, Especially Upon the Circulation.

Cabot (Boston Medical and Surgical Journal) concludes from clinical experiments made upon forty-one patients, mostly cases of typhoid fever, in which 1105 measurements of the blood-pressure were made before, during, and after the administration of alcohol in therapeutic doses, that neither the maximum nor the minimum blood-pressure showed any variations that could reasonably be referred to the action of the alcohol. So far as was determined by the methods, and in the cases used in this research, the action of alcohol upon the circulation was *nil*.

The same neutrality and apparent inertness of therapeutic doses of alcohol in relation to the temperature, pulse rate, respiration rate, appetite, sleep, delirium and secretions (renal and cutaneous) of 309 patients suffering from a great variety of diseases was the total impression derived from 2160 observations in these cases.

These observations are not interpreted as proving that alcohol is useless or useful in disease. As a narcotic and vasodilator it may have an important place in therapeutics.

More important probably than any of the questions investigated so far is the problem of the effect of alcohol upon the power of the sick man's blood to protect him against infection and other harmful influences. The studies of Abbott and of Mircoli have begun to clear a path in this direction, and we have a certain amount of evidence relative to a similar problem in the lower animals. But as the results of studies regarding the action of alcohol upon animals or upon healthy men cannot be used as evidence of its action in sick men, there is a good field for experimental work in this direction along the lines of Ehrlich's newer methods.

Some Remarks on the Pathological Action of the Roentgen Rays, with Special Reference to the Literature on the Subject.

MacLeod (British Jour. Derm., October, 1903) formulates from his survey of the literature the following tentative propositions as fairly representative of the present state of our knowledge of the subject:

(*a*) That the x-rays in small doses have a stimulating effect on the elements of the healthy skin.

(*b*) That large doses, by long exposures, close proximity of the tube to the skin, or the employment of soft tubes, the rays are capable of devitalizing the tissue elements, interfering with the process of reproduction and causing their degeneration; and that this power is the result of a direct specific action of the rays.

(*c*) That the more highly differentiated structures, such as the hair follicles, glands, nails and blood vessels, are more readily and severely affected by the rays than the less differentiated epidermal cells on the fibrous stroma of the cranium.

(*d*) That pathologically altered cells, whether of epiblastic or mesoblastic origin, are far less resistant to the rays than healthy tells, and are devitalized with small doses of the rays; and that this destructive action on diseased elements may be taking place while the healthy elements in the neighborhood, instead of having their vitality inhibited, may be stimulated to a process of repair.

(*e*) That the action of the rays is cumulative, and that when the cellular degeneration reaches a certain degree the toxic products of the breaking down cells are capable of setting up an inflammatory reaction which is a secondary phenomenon.

(*f*) This inflammatory reaction is peculiar in that it occurs in a tissue the vitality of whose various elements has already been impaired by the action of the rays, and in that it is associated with greater destructive changes than those produced by the actinic rays and is apt to lead to ulceration and necrosis, and is liable to be followed by an imperfect process of repair.

Congenital Dislocation of the Shoulder.

Cumston (American Journal of the Medical Sciences). A five-year-old boy, of good family history, came under observation with a lesion of the right arm which had been noticed a few days after birth. There appeared to be impotency of the shoulder-joint, so that the child could not reach his mouth with his hand. The right shoulder had lost its rounded aspect anteriorly, the height of the axilla was diminished and the subclavicular hollow was more accentuated than on the left side. The arm was in very marked internal rotation, the elbow's anterior aspect facing the thoracic wall. Sensation was intact, and there were no trophic disturbances. A diagnosis of congenital dislocation of the shoulder-joint was made, and the joint exposed by Phelps' incision. The head of the humerus and the glenoid cavity were but slightly atrophied. After breaking up some adhesions the dislocation was readily reduced, the redundant capsule freely resected and closed with catgut sutures. A plaster dressing was applied for three weeks. The result was very satisfactory. The right hand can be raised to the forehead but not to the top of the head. Backward movements are improved, but not perfect.

Is the Urban Hospital Treatment of External or Surgical Tuberculosis Justifiable?

Tubby (The Practitioner). Comparing the results of the treatment of surgical tuberculosis in children in hospitals in London, and those in the country, the writer finds the advantage distinctly in favor of the latter, and expresses his conclusions in the following form:

(1) Tubercular children should not be put in hospitals in cities or large towns, but properly-equipped establishments should be started in the country or at the seaside. The increasing means of communication will easily meet the difficulty of the attendance of competent surgical officers.

(2) These hospitals should be devoted to one object only, just in the same way as sanatoria exist for the open air treatment of phthisis alone. If internal tubercle is treated in special hospitals, why not external?

(3) The rural hospitals must be conducted on definite principles. There should be no limit as to age, the younger children being equally eligible with the older. In fact, the younger the child, the more hopeful is its case, and the more urgent is it to take it in hand at once and thoroughly. Cases once admitted should stay until they are cured, or clearly proved to be incurable; and for the latter separate establishments should be provided, so that they cease to be a danger to the community. Cases which are undergoing cure should not be liable to interruption, owing to the want of subscribers' letters or other red-tapeism, and a case once entered upon must be followed right through.

The Use of Antitoxin in the Treatment and Prevention of Diphtheria.

Rudolf (British Medical Journal) relates the experience had in the Victoria Hospital for Sick Children of Toronto. In 1901, 100 cases of diptheria, all proven bacteriologically, were treated with antitoxin with three deaths. From January 1, 1902, to July 7th, 42 cases were similarly treated, with but one death. The hospital has shared the experience of other institutions in respect to frequent outbreaks of diphtheria among the children. The practice of giving every inmate an immunizing dose of diphtheria antitoxin has been followed for some time, with the result that not a single case of diptheria has developed in the hospital, although bacteriological examinations show that there are always some children who have the bacilli in their throats. The usual immunizing dose of antitoxin is 500 units, but for children under two years 300 units are sufficient.

Splenomegaly in Infants and Young Children.

Carpenter (British Medical Journal). During the last few years at the Evelina and Northeastern Hospitals for Children, Carpenter has seen 348 cases in which the spleen was palpable. Of these, 57 cases were affected with syphilis, 60 cases had chronic snuffles, and in 30 cases syphilis could not be excluded. In 131 cases the splenomegaly was associated with rickets. Craniotabes was frequently observed with the splenomegaly, but Carpenter finds it most frequent during the first six months, the active syphilitic period, and uncommon during the active rickety period. The presence of craniotabes should excite a strong suspicion of syphilis. Parrot's nodes (cranial osteophytes) the author regards in the same way. The two most important conditions associated with splenomegaly are (1) syphilis, and (2) rickets, and there is (3) an undetermined cause or causes.

Rheumatism in Childhood.

Friedlander (The Cleveland Medical Journal). The clinical manifestations of rheumatism in childhood are very different from those seen in adult life. The arthritic symptoms are not so marked. The growing pains of children are often rheumatic. Endocarditis is at its maximum in the rheumatism of childhood. The heart lesion is not so much a complication as a manifestation of the rheumatism. The close association with chorea is well known. Peliosis rheumatica is quite common. Rhematic nodules are more often seen in the rheumatism of childhood than in that of adults. These nodules are subcutaneous masses of fibrin, cells, and fibroid tissue of varying size. They are most apt to occur over the malleoli, at the margins of the patella, or along the extensor tendons of the hands, fingers, or toes. Recurrent epistaxis for which no local cause can be found is another symptom of rheumatism in children.

Vitality of Bacteria from the Throats of Scarlet Fever Patients.

Weaver (Journal of Medical Research). Streptococci are most abundant in the throats of scarlet fever patients early in the disease; they become less numerous later, but remain as long as any of the other bacteria present, and in many instances outlive them. The longest time after which streptococci could be cultivated from the dried material was ninety days. Twenty-one cultures were made upon milk. One culture was still alive after 200 days. The main points of the article are summed up as follows: (1) Streptococci are almost always, if not constantly, present in the throat in cases of scarlatina. In early stages they are usually present in very large numbers, becoming less numerous as the disease progresses. (2) The streptococci in the throat of scarlatina patients resist dying as long as the other bacteria usually present, and they often outlive all other forms, being alive as long as ninety days after the material is collected. (3) The streptococci remain alive for a long time in milk. (4) A small amount of sugar in nutrient media increases their value for the cultivation of streptococci. (5) Streptococci from scarlatinal anginas are not different from streptococci from other sources, so far as cultural and morphologic peculiarities are concerned.

Solitary Tubercle of the Stomach.

Roy McL. Van Wart, in the Johns Hopkins Hospital Bulletin, reports this case. The patient was a negro woman, aged eighty-eight. When she entered the hospital she was much emaciated, unable to stand from extreme weakness, and refused to answer questions. In about five days physical signs of a bronchopneumonia became evident in the right lung, and she died two days later. At autopsy the stomach was found to be small, with the surface smooth except at a point 6 cm. from the cardiac orifice along the greater curvature where an area of thickening of the peritoneum was seen. Corresponding to this a tumor could be felt lying in the stomach and occupying the greater part of its lumen. The tumor was semifluctuant and was completely covered by the ribs. The external contour of the stomach was unaltered. The stomach was opened along middle of the anterior surface, and the tumor was then seen to lie entirely in the stomach wall and was covered by a perfectly intact mucosa, which bulged into the lumen of the organ at this point. The tumor was 3.5 cm. in diameter and almost spherical. On opening it was found to contain a quantity of thick, yellow caseous material which flowed with difficulty. The wall of the tubercle was found to consist of necrotic material. The mucosa of the stomach was slightly infected and covered with mucus. The tubercle showed the following structure: The mucosa covering it was perfectly intact. There was no evidence of ulceration, or of an active inflammatory process, and it in every way resembled that from other parts of the same region of the stomach. The submucosa showed no change beyond a slight infection of the vessels similar to that seen elsewhere in the stomach. The muscularis was split in two layers, between which lay a layer of connective tissue passing gradually into a layer of cells which gave place to the caseous material of the tubercle. The cells in the second layer were of three types: Cells with large, deeply staining nuclei and little protoplasm, so called endotheiloid cells, which in some places were arranged concentrically around a few scattered multinuclear giant cells. The presence of non-striped muscle completely surrounding the tubercle leaves no doubt as to the primary seat of the disease in the stomach. The question as to where the original focus of infection occurred is difficult to answer. Clinically the case is of little interest, as the condition gave rise to no symptoms during life. To conclude: The case is one of solitary tubercle in the muscularis of the stomach in which tubercle bacilli were found in the tissues and recovered from an experimental animal with the production of the typical lesions of tuberculosis. It is impossible to state whether the lesion was primary in the stomach, but there is no definite evidence to the contrary.

The Quantitative and Qualitative Relation of Toxin and Antitoxin.

Bashford, in the London Lancet, Oct. 17th, 1903, says that in investigating toxin alone it has been shown that—

1. The volume containing the lethal dose can be converted into one no longer lethal within the time limit by diminishing the total volume by a small but measurable fraction of the whole.

2. A measurable quantity of toxin solution can be borne without the production of any symptoms.

Both these effects can be obtained in a different guise when one is dealing with a mixture of toxin and antitoxin, for it has been ascertained that—

3. The poisonous action of the lethal dose may be abolished within the time limit by the addition of a very small quantity of antitoxin; the experiment gives evidence of a qualitative reduction in the toxicity itself, but no evidence of the occurrence of the quantitative reduction refeared to in conclusion 1.

4. When the toxic power of a quantity of toxin has been reduced by antitoxin to such an extent that no symptoms appear, a measurable degree of toxic power is still potent qualitatively, but we are not entitled to state this in the quantitative terms of conclusion 2.

It has been further found that—

5. The lethal dose is separated from the nonlethal not by a hard-and-fast line but by a zone wherein are contained appreciable fractions of the lethal dose; the data here are quantitative.

6. In mixtures of toxin and antitoxin in such proportions that a lethal issue occurs and does not occur, the margin between the toxic powers of such mixture is not sharp but is a zone, and the actions standing at the upper and lower limits of this zone differ from each other by a measurable fraction of the total toxicity; the data here are purely qualitative.

7. It is not justifiable to assume a priori that one volume of antitoxin solution always fully accounts for one volume of toxin solution when mixed in varying multiples. This presupposes that quantitative excess of either is possible and measurable, and ignores the fact that we cannot estimate the quantitative and chemical relation of toxin and antitoxin, but merely the qualitative physiological characters of the mixture, and this only when the toxic power present is manifestly in excess. It is preferable to speak of the retention of active toxicity or of active antitoxicity in characterizing such mixtures. The phrases "free toxin" and "free antitoxin" may not be in accordance with the facts and should be abandoned.

8. The above facts indicate the limitations within which it is possible to determine the volume of the lethal dose of toxin and the volume of antitoxic serum sufficient to abolish lethal action—i. e., the qualitative determination of a physiological neutral mixture of smallest bulk. If the volumes thus determined be merely multiplied one hundredfold a qualitative indication of the amount of the experimental error present in the original determination is obtained, but no basis for deductions as to the quantitative and chemical relations existing between the toxin and antitoxin contained in the reacting volumes. The assumption that data thus obtained permit of conclusions of a far-reaching nature as to the quantitative relations and intimate chemical nature of the reaction involves confounding of the abstract with the concrete.

9. The smallest quantity of antiricin which just suffices to abolish the action of a unit dose of ricin, that is the smallest qualitative equivalent of the latter, modifies the action of higher doses of ricin. This shows that the unit dose of ricin is but one of a series of doses to which this quantity of antiricin has a qualitative relation and the fact can only be interpreted as proving that one and the same volume of antiricin has quantitative relations with more than one volume of ricin. At one end of the scale of doses of ricin, with which qualitative relations exist, there will be active if modified antitoxicity, as e. g., with the unit dose of ricin, and at the other end active if modified toxicity, but neither ricin or antiricin is really "free." The phenomena noted for mixtures of diptheria toxin and antitoxin and for tetanus toxin and antitoxin are exactly comparable to those obtained with ricin and antiricin and are to be explained by the existence between these toxins and antitoxins of similar quantitative relations in accordance with which they react with one another in more than one fixed proportion.

Treatment of Fractures.

The article of D. Jordan (Munch. med. Woch.) gives evidence that the author is an enthusiastic believer in the massage treatment of fractures, combined, however, with immobilization, even where dislocation is absent. The massage consisted in stroking the limb in its long axis, from the periphery to the center with increasing pressure, without, however, manipulating the actual site of fracture. Thus, a Colles' fracture was massaged, then a wet dressing applied, and the arm fixed in a simple paste board or wire splint till the next day, when the massage was repeated. This treatment was continued until complete union had set in. Fractures of the forearm and of the condyles and epecondyles of the humerus were manipulated in the same way with the arm flexed to a right angle and in supination during the intervals. In fractures of the olecranon it is well to fix the arm in extension after every sitting for three weeks; after this the arm is immobilised more and more in flexion. The absence of pain during massage shows that it is properly performed. Of seventy-three cases of fracture of the upper extremity, sixty-seven regained complete use of their limbs; the others, owing to advanced age or systemic disease, had slight limitations of movement. Even where there is a constant tendency to dislocation, massage is useful, since it stimulates callus formation. In fractures of the lower extremity, massage is of marked advantage only when the break involves a joint; it should here be used with ambulatory dressings.—Indian Medical Record, Oct. 14, 1903.

Pneumonia with Suppurative Synovitis of the Right Knee.

Verco, (Australasian Medical Gazette). A young woman had pneumonia of the left lower lobe. On the night of the fourth day she was kept awake by severe pain in the right knee, which came on quite suddenly. Next morning the joint was very much swollen and painful, but not red. On the seventh day it was punctured, and pus was withdrawn. On the ninth day the knee joint was incised on each side of the patella, and drainage tubes inserted. On the fourteenth day an abscess was opened over the right internal malleolus, and on the nineteenth a large abscess was incised and drained on the inner side of the right calf. In a month these had scabbed over. After a short time the incisions into the knee-joint healed, leaving the knee slightly flexed, with some passive movement, but this gradually disappeared, leaving a stiff joint. The temperature did not range very high after the first few days. The day after the knee became affected it was 101.6 degrees, between which and 101 deg. it then ranged until the day after the knee was opened. There was no crisis. An aspirator needle was introduced into the chest, so as to make certain of the absence of an empyema. The pus from the knee joint yielded a pure culture of the pneumococcus.

Fracture of Clavicle in Cranial Presentations.

Muns (Centralbl. f. Gynak) refers to Reither's series of sixty-five collected cases. Muns found twenty-two cases in 1,700 children delivered in the Copenhagen Maternity. Of the mothers, nine were primiparæ, thirteen multiparæ. The left clavicle was fractured in eight cases, the right in fourteen. Of the children, fifteen were males, seven females. Of the twenty-two cases, seventeen were spontaneous deliveries, the remainder being forceps cases. The middle third of the clavicle was most frequently affected. On account of the absence of any apparent impaired movement of the arm, the condition may be overlooked, an excessive abduction appears to be the only affected movement. Crepitation is usually made out, and well-marked callus is formed in from one to two weeks. Muns discusses the probable causation of this injury, and believes that pressure of the anterior shoulder against the symphysis pubis is the most important factor.—Indian Medical Record, Oct. 14, 1903.

Action of Adrenalin.

As a result of a series of investigations and experiments on the action of adrenalin, Simonovich (Roussky Vratch), arrives at the following conclusions: (1) The drug, in the doses employed, exerts a general effect only when injected into the blood; (2) introduced per os in quantities far exceeding the maximum therapeutic doses (0.01), it fails to produce any subjective feeling; (3) the failure to exert a systemic action is due not so much to the action of the liver as to the slow absorption of the adrenalin, for injections into the intestinal veins produce an effect from comparatively small doses; (4) injuries of the gastro-intestinal mucous membrane do not increase the absorption of adrenalin; (5) the application to mucous membranes, *e. g.*, to stop gastric hemorrhages, is not attended with any systemic toxic effect; (6) the maximum dose may be considerably increased if the drug be administered, for its general effect, but in the local application the frequency of the application is more important than its dose; (7) glycosuria from adrenalin is evidently due to toxicity.—Calcutta Medical Gazette.

Carbolic Acid in Smallpox.

Brindley and Bonis (The London Medical Lancet, Oct. 24th, 1903) give the results obtained in the treatment of smallpox by applications of pure carbolic acid. The pure acid in a liquified state is applied to the vessicles over a limited area with a small camel's hair brush, the application being made on successive days. On the first day the face and neck are selected for treatment, on the following day the hands and arms, then the lower extremities, and, finally the trunk. The vessicles rapidly shrivel up and scab over. One of the most striking results is the comparative mildness of the secondary symptoms or those coincident with the maturation of the pustules. In many of the patients the temperature remains at a low level. With regard to the subsequent pitting the carbolic treatment is decidedly beneficial in lessening disfigurement, although it is not to be relied on as a certain preventive. The use of the germicide tends to diminish the risk of infection from ærial convection and to remove the disagreeable odor of the disease. The total number of cases treated was 35, of which 22 were of a severe kind, most confluent, more than half of these being in unvaccinated subjects. Five of the cases proved fatal, 2 of which were children suffering from scarlet fever, while a third was one of malignant smallpox.

Liver Abscess.

Cantile, in the British Medical Journal, contributes an article on this subject. We quote the following: When there is a suspicion of pus in the liver, it is the duty of the practitioner to thoroughly explore the liver by means of an aspirating syringe. Pus may be reached at the first puncture, but if not, the liver should be punctured at least six times before coming to the conclusion that an abscess is not present; the number of punctures, however, may be multiplied; when blood flows into the syringe, it is wiser to draw off from 6 to 10 oz., as an abstraction of blood from an inflamed liver is the readiest method of relieving hepatitis if it is present. The danger of hemorrhage from such punctures has been mentioned by so competent a surgeon as Mr. Hatch, of Bombay. To obviate the danger of wounding the inferior vena cava, the only vessel likely to be wounded by a needle, and thereby cause fatal or even serious hemorrhage, the following anatomical observation, gained by a study of frozen sections of the body made at the level of the liver may be acted upon. The inferior vena cava at the level of the liver is situated at (practically) equal distances from the surface along a line leading from the middle of the body in front to the angle of the ribs on the right side—the area in which a needle must be introduced in searching for pus in the liver. Now, in a patient whose body measures 32 inches in circumference at the level of the seat of the intended operation, the center of the inferior vena cava is 4½ inches from the surface. The needle therefore cannot be introduced without danger further than 3¾ inches in a direction from the surface of the body towards the position of the inferior vena cava. To guard against the danger of wounding this vessel, needles should be made commensurate with this anatomical fact. When the circumference of the body is 36 inches, the needle is ⅛ inch longer, and when 40 inches, ⅝ inch longer. It is well to have anatomical data to reassure the practitioner that he can safely puncture the liver with the precautions given. For hesitation in puncturing, when pus is suspected, for fear of hemorrhage is a serious matter, for aspiration alone can often give a definite diagnosis. The use of the trocar and canula has been condemned; but medical men engaged in practice in the tropics, and who meet with cases of liver abscess, are, in the vast majority of instances, far removed from hospitals with their up-to-date appliances and other comforts. With such surroundings, however skilled a practitioner may be, for him to attempt trans-thoracic incision, in the search for possible pus in the liver, is practically to condemn his patient to death. Given, however, a means of operation that he can quickly and safely do himself, he will not hesitate to search for and drain a liver abscess. In the best circumstances, however, a *deep-seated* supra-hepatic or intra-hepatic abscess is best treated by the trocar and canula and siphon drainage through a large tube. Supra-hepatic abscesses should always be operated upon by abdominal incisien. If also puss is pointing in the epigastrium or towards the right ribs latterally, incision with removal of a portion of a rib, if necessary, is no doubt the better treatment, but with a deep seated abscess it is a difficult matter. The exposure of a liver with pus deep seated in its substance does not help in locating the presence of pus in the organ, and one is no wiser clinically by such a procedure; thus for all deep-seated abscesses, the trocar and canula method, with ample siphon drainage, is the proper method of treatment, be the operator ever so skilled and his hospital environment of the very best.

Medical Gymnastics and Massage.

Olsson (Pacific Medical Journal). "Of the therapeutic value of gymnastics and massage, when judiciously used, there is no doubt, but it is for the physician or surgeon to say when it should be applied. He will be guided by the condition of the patient, and the effect he desires to produce, in directing the employment of different modes of mechanical treatment. The gymnasts should always confine themselves to their gymnastic treatment and leave to the physician the diagnosis and the prescriptions. If it were so the prejudice now prevailing on the part of the latter would be removed, and mechano-therapy would gain for itself and its practitioners the confidence of the medical men and the position as a prominent part of medicine to which it is properly entitled.

The gymnastic and massage treatments act essentially by increasing circulation and improving nutrition. It has been shown by Lander Brunton that more blood actually flows through the tissue during and after rubbing. The number of red corpuscles and, to some extent, their hæmoglobin value is also increased. At the same time the movement of the lymph stream is also accelerated. In order to assist flow of blood and lymph, stroking is applied centripetally, that is, upward along the limbs and lower parts of the body, downward from the head.

The effects of the increased physiological activity set up are numerous. Functional ability and strength are restored and exhausted muscles by the removal of waste products and the induction of a fresh blood supply. Congestion is relieved; the renewal of the epithelium of the alimentary canal becomes more active and the smooth muscle fibres are stimulated, collections of serous fluid are dispersed, secretion and excretion are increased, and the appetite is strikingly improved as are local and general nutrition. The effects indicate the conditions in which medical gymnastics or massage may be usefully applied. These are most heart diseases, muscular wasting, chronic and subacute affection of the joints, sprains and contusions, dislocations, fractures, and in fact almost always after surgical operations, when functional power has to be restored. In muscular rheumatism, sciatica, and other neuralgias, contractions, insomnia and some forms of headache, in local congestions, inflammatory and other affections of the eye, mechano-therapeutic treatment is benefiicial.

Ulcerative Angina and Stomatitis Associated with the Bacillus and Spirillum of Vincent.

J. W. Fisher (American Journal of the Medical Sciences, September, 1903):

These cases were associated with the fusiform bacillus or spirillum of Vincent. This condition was first described by Vincent in 1896. Various observers have confirmed the findings given by Vincent. The fusiform bacillus is swollen at its center, pointed at the ends, generally straight and measures 6 to 12 m. Seen at times as a diplobacillus and in irregular masses, motile (Noclot and Marotte) stains readily with basic stains, decolorized by Gram's method. Vacuolation or granulation is seen at times, but spores have not been demonstrated.

The spirillum varies in size, but is long and of equal dimension throughout, occurs singly in groups or in dense masses, is motile, decolorized by Gram's method.

Streptococci, pneumococci, colon and Klebs-Loeffler bacillus are found in the deeper parts of the ulceration. Cultivation and innoculation so far have proven negative. Two cases are described.

The examination showed large ulcers on the tonsils encroaching on the uvula, which were superficial with irregular, inflamed edges, the floor being covered with a grayish membranous exudate which could be easily removed but reformed rapidly, contact caused hemorrhage.

Slight soreness increasing on swallowing, and itching were present. Constitutional symptoms were slight.

The infection in this patient began at the site of a lacerated gum due to extraction of the last molar tooth. Other small patches were present near this site, on the gum and cheek.

There was no inconvenience till the tonsils became involved.

The second case developed as a superficial ulcer of the tongue from abrasion of same by the teeth. A creamy exudate arose, which later became membranous and very adherent. A similar patch developed on the gum but was not so adherent and the ulcer bled easily after the membrane was removed.

The duration of the disease is ten days to six weeks. It is to be diagnosed from syphilis and diptheria.

Syrup of the Iodide of Iron.

Hodge (Lancet-Clinic) says:

1. In the early stages of phthisis, given in one dram doses three times daily. It promotes secretion, acts as a diuretic slightly, and the weight of the patient increases.

2. In dry, rasping coughs of bronchitis it will soon relieve the congestion and increase the expectoration after the ordinary cough syrups have failed.

3. In amenorrhea and dysmenorrhea, in scrofulous women especially, it is of special benefit, the menstrual flow often being properly regulated. The dose in such cases should range from twenty to thirty drops after each meal.

4. In anemic individuals suffering from chronic rheumatic gout it is of service, given in doses of one dram, combined with cod-liver oil.

5. In constitutional syphilis, it is a valuable remedy.

6. In children with a strumous diathesis, enlarged cervical glands associated with catarrhal conditions of the throat, and enlarged tonsils, it should be given, administered in ten-drop doses three times a day. It produces marked alterative effect, hastening absorption and reducing the swollen glands and at the same time increasing the hemoglobin.

7. In cases of delayed resolution following croupous pneumonia it is a splendid reconstructive and tonic.

8. In the incontinence of urine in children it serves a good purpose given in twenty or thirty drop doses in water after meals.

Fecundation After Curettage.

Don Policarpo Lizcano Y. Gonzalez (Medical Press and Cir.) says:

Pregnancy coming on quickly after curettage is liable to end in abortion; of four cases recorded, abortion took place in three. It is noticeable that the form of metritis for which the patient has been curetted has no influence either in delaying or hastening the fecundation. We conclude that—

1. Curettage is not a cause of sterility.
2. Fecundity is restored by the operation.
3. Sterility is cured by the operation.
4. Endometritis following abortion is very amenable to the operation.
5. The more recent the lesion the better the results.
6. Within six months of curetting the majority of patients become pregnant.
7. If pregnancy does not occur within twelve months, its occurrence is unlikely.

Of the 20 cases, 2 were nullipara, 4 unipara, and 14 multipara. The diseases included 11 cases of post abortum endometritis, 4 cases of catarrhal metritis, 30 of metritis hemorrhagica, 1 of septic metritis, and 1 of retroversion. After curettage, 12 women were each once confined, 3 women were each twice confined, and 1 woman was three times confined, 3 women aborted, and 1 woman was at the time of writing pregnant. Within a year of the operation 11 women were confined, and within two years, but over one, five women were confined.

Abscess of an Epiploic Appendage.

Bland-Sutton (The London Medical Lancet, Oct. 24th, 1903) mentions the fact that small foreign bodies may penetrate the wall of the colon, enter the fat of an epiploic appendage and there set up abscess formation. Such abscesses may attain quite a large size, are very hard and may present all external appearances of a malignant growth. It is possible that some of the reported cases of disappearance after operation of an abdominal malignant growth, come under this head. The author reports two cases. In one the tumor was recognized at operation as an enlarged and inflamed epiploic appendix; it was opened, and a sharp pointed foreign body removed. In the second case the tumor was regarded as cancer of the colon, and a wide colectomy performed. In opening the resected lump, there was found a round pill-like body lodged in a smooth-walled cavity. The globular body had a fragment of straw for its nucleus. Ordinarily such foreign bodies are surrounded by fæces and so pass safely through the intestine.

The attention of our readers is called to the advertisement of Robinson-Pettit Company, which appears on page vii, of this issue.

This house is one of long standing, and enjoys a reputation of the highest character.

The preparations referred to, we commend specially to the notice of practitioners.

Miscellaneous.

It Is a Bad Habit

to whip up the waning physiologic functions of elderly people with strynchnine or alcohol; after a short time the deleterious reaction is more certain than the primary stimulation. These patients need help of a character not furnished by a powerful stimulant—their functions need gentle reinforcement and, experience proves, the best agent for this purpose is Gray's Glycerine Tonic.

The atonic digestive disturbances almost constantly present in old age are promptly overcome by the use of Gray's Tonic. It stimulates the enfeebled digestive glands to secrete abundant supply of gastric juice. This, in turn, assists the assimilation of food and improves the general nutrition. Then, too, these patients feel better because the remedy acts as a prop to the entire system; they are less languid, are not so easily fatigued upon exertion and are mentally more alert. Many physicians report that the routine employment of Gray's Tonic in those patients in whom are present the signs and symptoms of old age, imparts a degree of comfort and well-being, free from after-effects, not obtainable from any other medication; one physician states "it picks them up and holds them together."

Another strong reason for the use of Gray's Tonic in elderly people is that it wards off the tendency to inflammations of the respiratory organs; this fact has been noted and commented upon for many years past, and is doubtless due to the fortifying action of the remedy upon the general constitututation and its specific influence upon the respiratory tract.

Experience shows that it is good practice to administer Gray's Tonic to all patients in whom are noticeable the symptoms due to advancing years. The absolute freedom of the remedy from depressing or other detrimental reaction makes it the safest and most preferable means of combating the exhaustion and enfeeblement of age.

Sublamine as a Conjunctival Disinfectant

By Dr. Josef Imre, Physician-in-Chief to the Elizabeth Ophthalmological Hospital at Hodmezovasarhely, Austria.

In conjunctivites attended with copious secretion we need an antiseptic which is as energetic as corrosive chloride and as harmless as boric acid. Such a one is Sublimine which I have used in the hospital for the past year.

Sublamine, the ethylenediamine-sulphate of mercury, has already proved superior to bichloride for hand disinfection. It does not irritate the skin, may be employed as strong as is desired, has a deeper action than sublimate, and possesses other advantages. I use it for the treatment of conjunctivites, for preparing the field of operation on the eye, cleansing the lachrymal sac, etc.

It is most valuable in the various forms of suppurative conjunctivites. In these cases everything depends upon irrigation and the frequent removal of accumulated secretions. The earlier this is begun the better of course it is; but even when begun only late it is essential to prevent the stagnation of the noxious substances in the sac. In acute cases with abundant suppuration, as in gonorrheal conjuctivitis, Sublamine 1:1000 answers admirably, being readily borne. Instillations are made from a large eye glass onto the everted lid; where this cannot be done, the lids are opened with the fingers or spoons. Treatmedt is kept up day and night, 1½ to 3 ozs. being used every half hour and occasionally oftener to obviate pus stagnation; but experience has taught me that too frequent irrigation, no matter with what, causes the formation of pseudomembranes.

In numerous cases of blenorrhea neonatorum, Sublamine did us the greatest service. Treatment in the new-born is comparatively easy, especially in the less virulent forms and those that come under treatment early. But the eyes of children which cannot be seen daily are in great danger. In these cases the attendant is instructed thoroughly how the Sublamine irrigations are to be performed, and for the first few days the patient is seen every day. When I am convinced that treatment is carefully carried out and the cornea is unhurt, the patient comes only twice a week. Of course in severe cases the pencillings with silver nitrate cannot be omitted.

In our hospital each trachoma patient gets, in addition to abundant saline irrigations twice daily, a bottle of 1:2000 Sublamine together with cotton and a pus basin, so that he can wash his eyes as often as is necessary. We formerly used boric acid, but since we give Sublamine and the assistant physician or nurse cleanses the conjunctiva with it before morning and afternoon rounds, even freely secreting, verrucous, plicated and thickened conjunctivæ clear up and are cured decidedly faster. The conjunctiva does not stand effective concentrations of corrosive sublimate, but patients never complain of Sublamine.

In other severe infectious conjunctivites and generally in all cases of fresh catarrh, Sublamine compresses and irrigations are more effective than boric acid irrigations and lead or zinc. The secretion disappears more rapidly and the conjunctiva thins quicker. Painting with a weak silver nitrate solution, or better with Argentamine, must not be omitted; otherwise the latter stages of the disease, when the violent irritative symptoms have disappeared, may be much protracted.—Abstracted from Die Heilkunde, September, 1903.

Causerie Therapeutique. More about Cacodylate of Soda in Tuberculosis.

In our last talk concerning Cacodylate of Soda (V. Fr. Med., 1902, No. 12) while examining what could be its role in the next researches on the transformation of morbid surfaces, we have been brought to cite the interesting thesis of M. Albert Jalaguier on the "Cacodylate of Soda in Tuberculosis." We have there an excellent work with which our readers are doubtless familiar, so for the moment we shall not urge it.

Still, as we are of the opinion that a medicament can never have too many references—even if it was to distinguish it better from those which have none—we wish to note the few lines which Dr. Ranglaret published last year—in the "Centre Medical,"—lines which we found in our notes, and which support the ideas that we have asserted here.

Let us first say that Dr. Ranglaret is not a blind enthusiast, for whom every new medicament is a panacea as infallible as it is universal. Not at all. He very well recognizes the inconveniences of a medicament, and he does not hesitate to tell. We can, therefore, attach much more value to any compliment coming from him. I quote:

"For the last fourteen months I have treated and still treat by the cacodylate of soda some patients ill of different affections, but mainly of tuberculosis.

"Twelve ill of tuberculosis have been or are yet under treatment. It is very evident that I do not confine myself to this one mode of treatment; I consider (and I believe that one cannot reasonably act otherwise) that the cacodylate is only an adjunct to the treatment, whether it acts as a sparing aliment, as Renaut of Lyons holds, or whether, on the contrary, it stimulates nutrition, as Gautier declares. My patients are, therefore, submitted to the tripple treatment of rest, air and suralimentation.

"Now the results are almost always an increase in weight and a stimulated appetite.

"In the case of a girl of 23, who had come to me with an inflammation of the thorax on the left side, although tuberculosis was in the first stage, the results have been surprising. This girl has gained regularly 500 grams each week during eight consecutive weeks. She appears to-day completely cured.

"In another case, that of an employee of "la Compagnie d'Orleans," the cacodylate has just happily modified a surface already touched by the bacillus (crepitation, spitting of blood) and after two months of treatment the patient has been able to resume his duties without showing any apparent trace of the former lesions.

"In all other cases the medication has certainly given a great spur to the nutrition, especially at the start."

It would have been, I think, a great pity not to have cited the observations of Dr. Ranglaret. They add very opportunely to the eulogistic testimonials which the cacodylate has won for its action against tuberculosis, they bring a new justification for the opinion of those who believe—and "la maison Clin" is of that number—that, in this series of new medicaments, coming one after another, the cacodylate of soda has not said its last word.

Treatment of Whooping-Cough.

Dr. Wm. Stekel, of Vienna, relates his experience with euquinine in twenty-three cases of whooping-cough. The results in general were very prompt, and often truly wonderful. In spite of the high quinine content of the drug—over three times as much as in quinine tannate—there were no untoward by-effects. Administered in the commencement of the trouble, the euquinine reduced the duration of the disease to one to two weeks. The author mentions two things of diagnostic value in the beginning of the disease: high specific gravity of the urine (1.020–1.035), and the fact of the cough occurring at night, the child being free from it during the day, and there being no physical signs in the chest. Nurslings received 0.2 Gm. (3 grn.) in suppository form twice daily. Others received internally twice a day one decigramme more than the number of years of age they were; but 0.7 Gm. (11 grn.) was not exceeded as a dose. Children who refused to take the remedy per os received it as suppositories—two decigrammes more than the number of years they were old, the largest dose per suppository being 1 Gm. (15 grn.). If the patient was seen when in the height of the disease, a little codeine was added, but only for a few days. With the exception of one case, the euquinine never disappointed. Whereas the usual duration of whooping-cough is six to seven weeks, and there have been instances where it was a year, in the author's cases it did not exceed three weeks if he was called at the proper time; most of the children were well within a fortnight.

The author recommends euquinine also in pertussis occurring in adults—1 Gm. (15 grn.) twice daily.

As a useful adjunct to the euquinine therapy hot baths for ten to fifteen minutes every evening are recommended; at the end of each bath a douche of cool water is given. The children, as a rule, then sleep much more quietly and longer.—Klin. ther. Wochenschr., x, No. 23.

Therapeutic Value of Iodipin.

Prof. H. Winternitz, the introducer of Iodipin, contributes a paper on the physiological principles of iodipin therapy, in which he gives his opinion of the therapeutic value of the drug as based on years of observations. The external application of iodipin is condemned; even on brisk inunction day after day no iodine appears in the urine.

The rectal administration is also but little satisfactory, for only 10 per cent. of the iodipin seems to be absorbed into the system. The addition of pancreatin to the enematta increases the amount taken up some, yet this method of administration is very inaccurate. For internal use the 10-per-cent., and for subcutaneous the 25-per-cent. preparation, are recommended. Iodipin is not acted upon by the saliva or the gastric juice, even where pathological conditions of the stomach are present, nor does any absorption take place from the gastric mucous membrane. An absorption into the lymph-channels finally occurs from the intestines; the greater part of the drug is taken up unchanged, only a small percentage being spit up by the intestinal contents. In the blood, iodipin circulates in small amounts and in finest subdivision, and free iodine is constantly split off, to unite with the alkali salts present. As soon as this occurs, iodine can be detected in the urine and saliva. The time which elapses between the ingestion of 1½ to 5 Gm. of iodipin and detection of iodine in the saliva is generally ten to forty-five minutes if the stomach functionates properly. It requires four to six days till 10 Gm. of iodipin are eliminated, while the same amount of potassium iodide is excreted in from two to three days. The fat, which is not at once utilized by the body, is stored up chiefly in the muscles, liver, bone-marrow, and subcutaneous tissue. The slow assimilation explains why intoxication is not likely to occur. The amount of drug lost through the feces is very small; in one case where the feces were analyzed for many days it amounted only to 4 per cent. It also appears in the milk, both as such and as iodide. As for the subcutaneous administration, it was found that after long-continued use, iodine could still be found in the urine 402 days after the last dose was given. Here also the various internal organs and the blood gave positive iodine reactions. Massage, bodily exercise and baths will invariably hasten absorption and excretion.

The author concludes from his observations that iodipin is indicated where a prolonged effect is desired, especially since loss of weight and cachexia do not develop; and in bronchial asthma, syphilitic endarteritis, and lead colic considerably more can be accomplished than with the alkali iodides now in vogue. — Munch. med. Woch., L, No. 29.

Most of the salicylic acid of commerce is made synthetically. Isomerically, it is said to be identical with the salicylic acid prepared from oil of wintergreen. Practically, they are as different as any two things can be. The commercial salicylic acid has little therapeutic value. The synthetic acid is irritating, disturbs the stomach and does not give the same good results which first brought the natural salicylic acid and its compounds into notice.

The Wm. S. Merrell Chemical Co., of Cincinnati, make Salicylic Acid from Oil of Wintergreen, and their Salicylic acid and Sodium Salicylate is all that should be, and you get good results from its use.

We do not say this for the benefit of the Merrell Company. They do not advertise with us, and we are not asking them to. We do not ask any one to advertise with us who does not find it a good business proposition. But the fact remains that the Merrell Company does make an excellent preparation of Salicylic Acid and that their Sodium Salicylate is all that the doctor can ask. Knowing this, is it not absolutely silly, not to say heartless, for a doctor to prescribe these drugs without specifying the make which he knows to be reliable?

What if it does benefit the Merrell Company? How does that make it unethical to prescribe a remedy which will do the work in the best way, relieve the patient and make him think well of the doctor? Is there anything unethical in patronizing a manufacturer who has enough confidence in the profession to make pure drugs?— *The Medical Brief, October, 1903.*

Primary Acute Miliary Tuberculosis of the Conjunctiva.

George A. Berry reports a case of this very rare condition. It was undoubtedly primary, and belongs to the first of the four groups into which Sattler classifies this affection; the one in which the disease most closely resembles, both clinically and anatomically, the usual form in which tubercle affects the mucous membrane. The group is characterized by the appearance in the ocular or palpebral conjunctiva of miliary nodules, which have a tendency to break down and coalesce, cause comparatively little surrounding inflammatory reaction, and are uncomplicated by any cox comb-like or papillary excrescences. In this group there is nearly always swelling of the pre-auricular gland. The microscopical examination shows typical miliary tubercle imbedded in densely vascularized granulation tissue. In the case described, the extent of the area of conjunctiva involved, as well as the massiveness of the subjacent hyperplasia, was much greater than anything that has been described elsewhere. The extent to which, and the rapidity with which, the superficial lymphatic system connected with the eye became involved also showed an unusual virulence.—*Edinburgh Medical Journal.*

Causerie Therapeutique--Phosphotal and Gaiacophosphal.

This causerie communication, like the little blue flower dear to those who fear themselves forgotten, is, in these times of haze and fog, a lucid appeal to the memory. It purposely bears the same title as that which likewise appeared here three years ago, and which, to justify its subtitle (The Various Steps of Creosote Medication), shows how in therapeutics they know how to make use of creosote to advantage, in succeeding in associating it with that other product, phosphorus, the use of which has almost become a daily necessity, until they found those two perfect medicaments which are called Phosphotal and Gaiacophosphal.

Three years! I ask the reader to kindly cast a glance backwards and tell me frankly if, in these three years, on this particular chapter of the struggle with bronchial and pulmonary affections, anything has come to —I do not say surpass—but attenuate the remarkable part of Phosphotal and Gaiacophosphal, and for all that, during that time, chemists and pharmacists have not been inactive—a period which has seen the dawn of lecithin, of cacodylates, of methylarsinates, and of that marvelous product adrenaline, cannot be called a time of idleness. But on the same ground where creosote struggles, what new and trustworthy protagonist has appeared?

Still attempts have been numerous. I do not wish to tire any one, and will cite no name, but it will be permitted me to say—since it is obvious—that the number of attempts is strictly equal to the number of failures.

To be sure we are far from abandoning

the contest; tuberculosis, better understood to-day by the masses, becomes each day the incentive for new crusades, and the subscription opened by a large political journal has reached, in a time relatively short, nearly a million and a half. But the effort is directed mainly to the hygienic and prophylactic side; the therapeutic side, properly so called, has not tempted any one yet.

From this point of view, creosote and its compounds are yet the arms of choice. And it is evident that, among these compounds, the advantage ought to rest with those which, possessing the marvelous action of creosote, without its inconveniences, add also to it the not less marvelous and not less logical action of a body, which, like phosphorus, is an indispensable element in the functional processes of our organism.

Phosphorus; in therapeutics, is far from having said its last word; some recent trials prove that we are disposed to exploit this mine of such peculiar richness, and we cannot but be greatly encouraged when we ascertain the results of its association with guaiacol and creosote in Phosphotal and Guaiacophosphal.

Glyco-Thymoline in Throat Affections.

Aside from the value of Glyco-Thymoline as an application to the mucous membrane in various abnormal conditions, Dr. J. William Henry, of Brooklyn, considers it of great value in the treatment of diphtheria. In a recent case, a most severe attack, in which every symptom pointed to a discouraging diagnosis, Dr. Henry used Glyco-Thymoline by spray and swab in conjunction with the ordinary constitutional treatment, with the result that, much to his surprise and gratification, the crisis passed without serious trouble. In tonsilitis Dr. Henry has adopted the use of Glyco-Thymoline for some time, its action being rapid and the results very agreeable to the patient.—*New York Medical Journal, Oct. 24th, 1903.*

Battle & Co., Chemists, St. Louis:

I have the pleasure of telling you of a most remarkable experience had with the bottle of ecthol you kindly forwarded me last month. When I received the sample of ecthol I had been treating a young man about ten days for what I diagnosed as ulcer of the stomach. For a year before coming to me he had occasionally seen dark colored blood in his alvine discharges, and now and then he had vomited blood of a lighter hue. There was an indurated spot on the body of the stomach about twice the size of a silver dollar which had been giving him trouble for some time. Could trace no history of cancer in his family. After putting him on teaspoonful doses of ecthol four times a day, he came to my office and smilingly told me the hard spot was gone. I examined him and found it to be true. During this last week he had been on ecthol alone. The vomiting had also ceased, and he had gained in bodily vigor. Gave him a second phial of same, cautioned him as to eating and exercise, and discharged him in fine spirits. I wonder if this case can be matched?—John F. Neal, M. D., Lytle, Texas, Oct. 14, 1903.

Professor Giuseppe Lapponi, Physician in Ordinary to the late Pope Leo XIII, and to His Holiness Pope Pius X. Principal Physician of the Hospital of San Giovanni Calibrita (del Fatebene Fratelli) of Rome —Member of the Academy of Rome, writes August 24, 1903: "In the hospital of San Giovanni Calibrita (del Fatebene Fratelli) in Rome, directed by myself, I have largely experimented with the natural mineral water placed in commerce under the name of Buffalo Lithia Water, and am glad to be able to attest that, by its richness of composition of Lithia, it is of marvelous efficacy, in cases of gout, of chronic, articular and muscular rheumatism, of hepatic congestions and functional disorders, of gastro-intestinal dyspepsia, of gravel and renal insufficiency, of light nephritic affections and of all the various forms of uric acid diathesis. The same water is also to be recommended highly in the initial processes of arteriosclerosis and in obstinate forms of bronchial asthma. May also be used as a good table water. So much I declare for the truth."

This strong and wide endorsement from so prominent and unexpected a source, shows that the fame of the celebrated Buffalo Lithia Water is extending around the world, and continues to receive the highest approval of the best physicians in every country.

Tannoform in Intertrigo.

Dr. S. E. Ostrowsky has employed tannoform with excellent result in the intertrigo of small children. The drug was used either as a dusting-powder mixed with an equal part of starch, or as a 10-per-cent. ointment with vaselin. When the latter is employed, the inflamed area should be washed with a solution of boric acid before applying the salve. Forty infants were treated in this manner, and the most obstinate cases, which had resisted all other applications, yielded promptly to tannoform. The results are ascribed to its astringent and antiseptic properties. No irritation was observed even in the youngest infants. —Arch. of Pediatrics, xx, No. 9.

The Treatment of Symptoms.

In a highly interesting article on this subject, Walter M. Fleming, A. M., M. D., of New York City, uses the following language:

"Long experience in the treatment of diseases in their incipiency, evidences beyond all debate, that almost invariably the attack in a large proportion of cases is inaugurated by febrile symptoms of greater or lesser severity. Also, it may be noticed that constipation or torpid inactivity of the bowels prevails. Therefore, the first indication in the incubation or incipiency of the attack, of almost any form or nature, is primarily to allay the fever, pain-nervousness and solicitude of the patient, and secondarily to empty the alimentary canal. These two ends being accomplished, a long advance towards a possible abortive issue of the attack has been made, or, in any event, the first indication and requirements are fulfilled, in proper progress toward a cure.

"Thus in the primary treatment of the numerous ills, which are characterized by the above quoted symptoms, the physician will find Laxative Antikamnia and Quinine Tablets at once handy, convenient and reliable, safe and sure, and to which the turbulent symptoms of fever, constipation, pain-sleeplessness, nausea and generally wretched depression yield so promptly and gracefully, that it is certainly refreshing to the physician himself to note the change in his patient from suffering and solicitude to comfort and quiet. I certainly know of no other remedy which will so readily and decisively allay and control the symptoms above enumerated."

Every physician has learned by practical experience that even the purest and best victuals may spoil the healthiest stomach. Persons suffering of obesity are generally such as have originally been immoderate in the use of good victuals and beverages, and when they afterward, in their distress, are anxious to get rid of their adipose matter and undergo a treatment of starvation, they exchange for the reduction of their fat a number of other troubles fully as detrimental, such as faint spells, general debility, nausea, headaches, mental depression, etc., which will only disappear when they again commence to eat rationally. Dietetic measures alone are not in all cases sufficient to get rid of the poisons caused by faulty metabolism, as the diet is not strictly adhered to as soon as the patient feels the least improvement. Therefore, we must aid the treatment with drugs, and experience has taught us that the saline and alkaline salts are the best remedies for such patients. Very careful clinical observations have proven beyond any doubt that Kutnow's Improved Effervescent Powder, by its free carbonic dioxide and by the ingenious combination of the sodium salts exercises the most beneficial effect upon the gastric mucous membrane and insures a ready absorption into the system, which is the main and most important factor. Therefore, it has earnestly been recommended by the highest authorities of the medical profession as more beneficial for the elimination of poisonous accumulations from the human system than any other known remedy.

Observations and Investigations Concerning the Action of Crede's Collargolum.

By Dr. J. Bamberger, Kissingen, Germany.

In the following lines an attempt will be made to elucidate the manner in which Collargolum acts, without referring to its efficacy, which has been abundantly confirmed by numerous authorities.

That its action is not bactericide was demonstrated by Brunner and Cohn; and Bamberger's own experiments also established this. Cohn showed how rapidly the silver, introduced intravenously, is distributed throughout the organs; a fact which had already been proven by Siebel for indigo, ink, etc., and which Bamberger himself corroborated with frogs by subcutaneous Collargolum injections.

A Collargolum injection is therefore to be regarded as an introduction into the system of extremely finely divided particles of silver. That important changes in the blood occur from such an injection may be assumed; for an enormous number of leucocytes must be concerned in removing the precipitated silver from the blood. These leucocytes certainly lose their usefulness in the body economy and leave the organism laden with silver, being excreted in the fæces, etc. To replace the missing leucocytes, the blood-forming organs must necessarily produce new ones, which then take part in combatting the infection. Leucocyte formation is stimulated by the toxins, and this stimulation is further enhanced by Collargolum.

The impartial observer must be absolutely convinced that Collargolum does give practical results, animal experimentation to the contrary notwithstanding. That there has been no success in some cases is probably due to the fact that it was used too late to stimulate the formation of new leucocytic hosts.

In animal experiments a relatively large amount of infectious material is introduced directly into the blood current; and these violent infections are not properly comparable to infections which occur in everyday life, where the germs often get into the blood late and often not at all. Under the natural conditions the body has more time to take protective measures against bacterial invasion; and a well-timed Collargolum injection will help the organism powerfully, though, indeed, not through any bactericide properties of the drug.

Another legitimate criticism to many animal experiments is that the Collargolum was injected before the infective material. Thus the infection reaches the blood at a time when a large proportion of the leucocytes was busied with the silver particles and the organism was robbed of an important element of protection. Beyer waited with his Collargolum injection until the animals showed signs of violent sickness; and they got well.

Animal experiments made by Bamberger showed to what extent the leucocytes are engaged in carrying off the grains of silver injected subcutaneously.

In order to prove practically his theoretical conclusion that after a large portion of the leucocytes have left the system, stuffed full of silver, an important leucocytosis occurs, Bamberger inuncted for 30-35 minutes 45 grains of the ointment on his leg, repeating this three times. Nothing was eaten between each inunction and blood count. The following table gives his results:

	No. of leucocytes before inunction:	15 min. after:	2 hours after:	5 hours after:
1st inunction,	3,700	3,100	2,500	5,000
2nd "	4,700	3,300	3,000	5,200
3rd "	4,500	3,400	3,300	6,300

Theoretically, a direct bactericide action of the silver can only occur when abscess formation has set in. Silver-laden leucocytes would probably be found among those called forth by the inflammatory reaction. For metallic silver hinders bacterial growth in its immediate vicinity. It is possible that a part of the efficacy of Collargolum may be due to its catalytic properties as a colloidal metal.—From Prof. Senator's University Polyclinic at Berlin; abstracted from the Berliner klinische Wochenschrift, August 24, 1903.

Organic Iron Medication in Secondary Anaemias. A Clinical and Hemotological Study.

By Lino S. Chibas, M. D., Senior Assistant House Physician, Columbus Hospital, New York; and G. A. De Santos Saxe, M. D., Assistant Pathologist to the Columbus Hospital, New York.

A great deal has been written in recent years on the value of the various new organic iron compounds in the treatment of anæmia, and our only excuse for the presentation of this report is that every new series of clinical observations, made with due conservatism and accurately recorded, is of value in confirming or disproving some fact or theory in medicine.

The problem of treating secondary anæmias is an interesting one. In each case there is, in the first place, the primary factor, be it loss of blood through hemorrhage, spontaneous or traumatic; or be it the lowering of the functional activity of the blood-forming organs wrought by disease somewhere in the body, or by the action of toxins; or the direct destruction of the red cells and their hemoglobin in the circulating blood by some more violent toxic agency.

The first question, therefore, is how to remove the primary factor, or, at least, how to arrest its influence on the state of the blood. The second is, how to improve the state of the blood, so as to give it a new lease of life by increasing the amount of hemoglobin—that prime agent of oxygen exchange—and the number of red cells, the carriers of this agent.

In each individual case of secondary anæmia there are different obstacles to be overcome as regards the primary factor, and therefore the treatment of the primary disease varies; but the therapy of the secondary condition is alike in all cases. Iron and its assistant, manganese, are the specifics to which we must have recourse—of that there has long since been no doubt—but the form of iron that should be used for this purpose is another question.

The problem as to the exact site and mode of absorption of iron which is administered therapeutically has occupied pharmacologists for a number of years, and a great deal has been written on the subject, and yet, there is still no agreement even as regards some of the essential points of this question. Is iron absorbed at all in the inorganic state? If so, in what form and in what quantities? What form of iron is most readily absorbed? How does iron act if it is not absorbed, or if only infinitesimal amounts, totally inadequate for the needs of the body, enter the plasma and are taken up by the molecules of hemoglobin? All these questions have been discussed and rediscussed, but as yet, as Hammarsten says: "The action of the iron salts is obscure."

In a clinical article we are not called upon to go into details in discussing the various phases of the question as to the absorption and mode of action of the iron salts, but a few words may be said to show the present status of the subject.

Whether iron compounds of the inorganic group are absorbed at all, is a question of subsidiary interest in the present inquiry.

There are two diametrically opposite views on this question. Bunge and his pupils[2] say that inorganic iron salts are not absorbed in any amount, however small, and that Blaud's pills and similar preparations act only by combining with the hydrogen sulphide and the alkaline sulphides of the intestine, thus preventing the decomposition of the organic compounds of iron existing in our food, especially in vegetables, and so permitting the absorption of these compounds into the blood. The opposite view is held by Quincke[3] and others, but the balance of evidence is in favor of Bunge's hypothesis.[4] The well-known fact that enormous doses of iron are required to produce appreciable effects in chlorosis, supports this theory. Thus, if a woman takes six grains of reduced iron three times a day (eighteen grains daily), it will take weeks to restore her to the normal condition if her hemoglobin has fallen to 50 per cent. And yet, the entire amount of iron in the blood of a normal woman of average weight is only thirty grains, so that if the inorganic iron were absorbed, as some observers claim, a few days would suffice to restore the balance of hemoglobin and red cells.

On the other hand. organic iron compounds, especially such as are composed of iron with a proteid substance that resembles as closely as possible the proteids of the food as they occur in the intestine (*e. g.*, peptones), are undoubtedly absorbed into the blood in sufficient amounts to produce a comparatively speedy therapeutic effect in anæmia, without injuring, as the inorganic compounds often do, the epithelial covering of the stomach and intestine, and thus causing gastro-intestinal symptoms summarized under the two general headings of dyspepsia and constipation.

It is these advantages that led to the general adoption of the iron peptonates, albuminates, etc., as the remedies to be preferred in the treatment of anæmia. In this report we deal with one of these preparations, that known as pepto-mangan, Gude, in which iron and manganese exist in the form of peptonates. Gude's pepto-mangan has been used for a long time at the Columbus Hospital as a matter of routine in all anæmic patients during convalescence from prolonged illness or from operations. The satisfactory results which have been obtained with this preparation have been noted, in a general way, by the visiting staff as well as by the house physicians, but until now we had made no study of the exact results, as attested by the examination of the blood before and after the initiation of the treatment.

In order to determine more accurately what could be expected of pepto-mangan in secondary anæmias as they occur in a general hospital, we studied a number of cases in the medical, surgical and gynecological wards. Of these a majority were in the services of Drs. Ramon Guiteras and Egbert H. Grandin, visiting surgeon and visiting gynecologist to the hospital, and take this opportunity to acknowledge their courtesy in permitting us to pursue this work.

About forty cases were studied from October 1, 1902, to March 1, 1903, in as thorough a manner as possible, with a view of determining the action of the preparation to be tested. Unfortunately, for reasons beyond our control, a great many of these patient left the hospital, believing themselves sufficiently improved, without giving us time to try the remedy for a sufficient period to obtain definite results. We present, however, twelve cases in which the medication was continued for three or more weeks, usually for about a month in each instance. In each of these cases blood-counts were made before beginning the treatment, as well as after it had been discontinued. The cases are given below, simply as they appeared in our notes, and they were not selected particularly on account of the results noted, but merely because they were the cases studied more completely than the rest.

REPORT OF CASES.

Case I. Mrs. R. F., Italian, 42 years of age, was admitted to the hospital on December 4th. Diagnosis, ovarian cyst. Symptoms of secondary anæmia. She was operated upon December 5th and the uterus was removed through the abdominal incision, as it was found to be the seat of a fibroid tumor which had degenerated into sarcoma. She was discharged cured on January 10, 1903. During her convalescence she took one tablespoonful of pepto-mangan (Gude) three times daily. The examination of the blood showed the following findings:

December 4, hemoglobin 50 per cent., reds 3,350,000, whites 15,000. December 18, after hysterectomy, hemoglobin 39 per cent., reds 2,300,000, whites 16,000. January 10, hemoglobin 70 per cent., reds 4,250,000, whites 7,800.

The patient left the hospital in an excellent condition, showing no signs of anæmia or debility.

Case II. A. P., Italian, 25 years old, admitted November 17th, with stricture of the urethra and signs of marked anæmia. November 24th, perineal section and internal urethrotomy for stricture. There was considerable hemorrhage during and for a few days after the operation.

Examination of blood: December 12th,

eighteen days after operation, hemoglobin 68 per cent., reds 3,700,000, whites 10,429. January 4th, 1903, twenty-eight days after beginning the use of pepto-mangan, hemoglobin 95 per cent., reds 4,800,000, whites 8,400.

Pepto-mangan was given in doses of one tablespoonful three times daily from December 13th to January 10th. The patient was discharged cured on January 10th, in good general condition.

Case III. M. S., Italian, 25 years old, admitted October 14th. The diagnosis was perinephritic abscess and tuberculous knee joint, and the patient showed pallor of the skin and mucous membranes. He was operated upon by lumbar incision for perinephritic abscess on October 24th, and his knee joint was excised December 18th.

Examination of blood: December 13th, 1902, three weeks after first operation, hemoglobin 70 per cent., reds 3,104,000, whites 5,888. December 20, 1902, two days after excision of joint, hemoglobin 70 per cent., reds 2,750,000, whites 24,000. January 10th, when discharged, hemoglobin 85 per cent., reds 4,640,000, whites 5,150.

This patient was given pepto-mangan for three weeks from December 21st to January 10th. He was discharged improved in general health. The anæmia was very marked on December 20th, after the second operation, and the increase in the blood cells and hemoglobin was very satisfactory for a case of this severity after three weeks' treatment.

Case IV. Ida M., 5 years old, Italian parents, born in the United States, was admitted November 30, 1902, suffering from typhoid fever. December 12th, after the convalescence had set in, the child was extremely anæmic-looking, with pale skin and pale, bluish-red mucous membranes. Pepto-mangan was ordered, a teaspoonful three times daily, on December 12th. Eight days later the first blood examination was made, two weeks later the second. The findings of the pathologist were as follows:

December 20th, hemoglobin 75 per cent., reds 4,720,000, whites 30,000. January 8th, hemoglobin 85 per cent., reds 4,960,000, whites 9,200. The patient was discharged cured on January 8th.

Case V. Cesare C., aged 25 years, single. Had been operated upon one year ago in South America for vesical calculus and urethral stricture. Was admitted December 3, 1902, complaining of inability to urinate and continuous dribbling of urine through a suprapubic fistula. December 15th, perineal section without a guide and internal urethrotomy were performed. The patient was weak and anæmic after the operation, so pepto-mangan, a tablespoonful three times daily, was prescribed on February 5, 1903. He made a good recovery from the perineal operation, but the suprapubic fistula persisted. After twenty-two days' treatment with pepto-mangan he was discharged improved.

Examination of blood: February 6, 1903, hemoglobin 80 per cent., reds 3,878,000, whites 4,250. February 28, 1903, hemoglobin 85 per cent., reds 4,516,000, whites 4,600.

Case VI. M. C., aged 44 years, widower, has had urethritis four times. On admission he gave a history of having suffered from frequent and painful micturition for fifteen months. An examination showed a chronic urethral discharge, a urethral stricture, 12 F. at about 6½ inches from the meatus, and a tumor in the right umbilical region simulating a very large kidney. The prostate was much enlarged and very tender. The urine was of a specific gravity of 1,020, acid in reaction, contained no sugar and no albumin, but numerous pus cells. In addition to treatment by irrigation and by dilatation of his stricture, he received pepto-mangan, a tablespoonful three times daily, from February 4th to February 28th, to combat a marked anæmia.

Examination of the blood: February 5th, hemoglobin 45 per cent., reds 2,149,000, whites 9,760. February 28th, hemoglobin 55 per cent., reds 2,460,000, whites 6,890.

The patient improved as regards his urinary symptoms, but his anæmia did not show much amelioration after twenty-three days of iron therapy. At the time of writing he was to be prepared for a second operation, an exploratory nephotomy for his renal tumor.

Case VII. A. B., Italian, aged 58 years, married, was admitted to the hospital on November 24, 1902, complaining of symptoms of enlarged prostate which had been giving trouble for six months. He had lost considerable flesh and strength and looked very anæmic. He was operated upon December 27th. His convalescence progressed satisfactorily as regards his urinary symptoms, but the anæmia persisted, and on January 14th he was put on a tablespoonful of pepto-mangan three times daily. After twenty-five days of this treatment he was discharged somewhat improved as regards the anæmia. The report of the two blood examinations before and after the use of pepto-mangan was as follows:

January 15th, 1903, hemoglobin 55 per cent., reds 2,940,000, whites 8,300. February 9th, 1903, hemoglobin 65 per cent., reds 3,110,000, whites 8,100.

Case VIII. A. D., 8 years old, schoolgirl, on admission to the hospital, September 22, 1902, complained chiefly of abdom-

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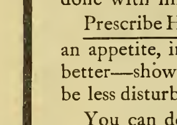

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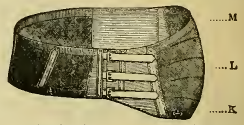

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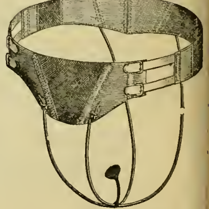

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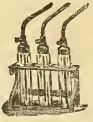

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inal pain, general weakness, and enlargement of the abdomen. On September 24th the abdomen was opened, and the peritoneal cavity found to contain a large number of tuberculous foci on the peritoneum and a considerable amount of serous fluid. The diagnosis of tuberculous peritonitis was made.

On January 27, 1903, the abdomen was again found full of fluid, and was opened for the second time. On January 28th the patient was given pepto-mangan, two teaspoonfuls three times daily, for twenty-nine days, at the end of which time she was discharged. The anæmia had not improved. The reports of the blood examinations were as follows:

January 29th, 1903, hemoglobin 75 per cent., reds 3,920,000, whites 10,000. February 27, 1903, hemoglobin 75 per cent., reds 3,890,000, whites 7,200.

Case IX. G. P., Italian, 28 years old, was admitted to the hospital on January 13th, 1903. For the last four months he had noticed a swelling of the left testicle. He had his scrotum tapped ten days before admission, and about five ounces of a clear fluid had been withdrawn. An examination showed a pyroform swelling about eight times larger than the normal testicle, with an apex above the external ring. Its upper part was hard, without fluctuation, dull on percussion, no impulse on coughing and non-translucent. Its lower part fluctuated and was translucent. On January 19th, 1903, the testicle was removed, the diagnosis of sarcoma of the testis being afterwards confirmed by microscopical examination. On February 1st the patient was given pepto-mangan in doses of a tablespoonful three times daily, and this medication was continued until February 28th, when he was discharged with a well healed wound and improvement of anæmia. The reports of the blood examinations were as follows:

February 5th, 1903, hemoglobin 65 per cent., reds 2,362,000, whites 5,900. February 28th, 1903, hemoglobin 70 per cent., reds 3,800,000, whites 7,000.

Case X. L. M., born in the United States, aged 25 years, was admitted to the hospital January 3rd, 1903. She had been married four years, had had one child and one miscarriage. No venereal history. One month before admission she was exposed to cold during menstruation, and the flow ceased. One week before admission she began to flow steadily and still continued to do so, at her entrance to the hospital. She has had severe pelvic pains for three weeks. The uterus was found retroflexed, and a large doughy mass was found on the left side posteriorly. On January 9, 1903, she was operated upon by posterior vaginal section. A suppurating hematocele originating from a ruptured extrauterine pregnancy was found in the left broad ligament. She was given pepto-mangan in doses of a tablespoonful, three times daily, from January 10, 1903, to February 9, 1903. The patient was discharged cured on February 9th. The reports of the blood examinations were as follows:

January 24th, hemoglobin 65 per cent., reds 3,150,000, whites 9,200. February 9, hemoglobin 75 per cent., reds 4,318,000, whites 6,100.

Case XI. Mrs. L. G., Italian, 23 years of age, married six years, III para, last child three years ago. Admitted January 15th, 1903, on the recommendation of her family physician, who had made the diagnosis of ovarian cyst. On admission a careful examination was made and she was found to be pregnant in the eighth month. The woman was delivered in the hospital on February 12, 1903, the labor being normal, but accompanied with considerable hemorrhage, leaving the patient markedly anæmic during her pregnancy. Pepto-mangan was given her in doses of a tablespoonful three times daily from January 25th to February 28th, when she was discharged cured. The reports of the blood examinations were as follows:

January 29th, hemoglobin 55 per cent., reds 3,126,000, whites 8,450. February 28 hemoglobin 75 per cent., reds 4,390,000, whites 6,000.

Case XII. G. G., Italian, 44 years of age, single, was admitted to the hospital on November 26, 1902. He is accustomed to smoke a pipe. For the past fourteen months he has had a sore on his upper lip, which gradually grew larger. At times it gave rise to a great deal of pain. On examination, a small growth was found in the median line of the lower lip, hard in consistence, ulcerating, and with slight infiltration of the surrounding tissues. The sublingual and cervical glands were not enlarged. The growth was removed by a V-shaped incision on December 10, 1902. A moderate deg,ee of anæmia remained after the operation, and on February 6th, 1903, the patient was given pepto-mangan, in doses of a tablespoonful three times daily. This medication was continued until March 5th, 1903, when the patient was discharged cured. The microscopical examination of the growth showed it to be an epithelioma. The reports of the blood examinations were as follows:

February 6th, 1903, hemoglobin 70 per cent., reds 3,219,000, whites 8,318. March 5th, 1903, hemoglobin 85 per cent., reds 4,890,000, whites 7,000.

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Listerine is a well-proven antiseptic agent—an antizymotic—especially useful in the management of catarrhal conditions of the mucous membrane, adapted to internal use, and to make and maintain surgically clean—aseptic—all parts of the human body, whether by spray, injection, irrigation, atomization, or simple local application.

Listerine is a swift and sure destroyer of infusorial life; it prevents the various fermentations, preserves animal tissues and inhibits the activity, growth and motion of low forms of vegetable life: hence Listerine may be relied upon to destroy the activity of the living particles which constitute contagion whenever brought into intimate contact therewith.

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A remedy of acknowledged value in the treatment of all diseases of the urinary system and of especial utility in the train of evil effects arising from a uric acid diathesis.

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On reviewing the results obtained, we find that, considering the diversity of cases studied under the influence of pepto-mangan, the ratio of increase in the hemoglobin and red cells was very uniform. In one case only (VII) of the twelve studied in detail, there was no improvement noted in the anæmia, and that was a hopeless case of tuberculous peritonitis, in which, however, the patient was discharged improved as regards her abdominal symptoms after operation. In another case (VI) the improvement was but slight, but this was a patient with renal tumor, and a marked cachexia. These two cases were as severe tests as an iron preparation could be subjected to, and perhaps the paucity of the results is not to be wondered at in these instances.

In the remaining ten cases reported here the results were very satisfactory for the short duration of the treatment. There is no question that a few weeks longer would have brought most of the "improved" cases up to the point where we could say that the anæmia was "cured." But unfortunately our patients belonged to a class in which every day spent in a hospital counts in privations for others who depend upon them, and we have been often obliged, upon the insistent demands of the patients and their friends, to discharge the convalescents at the earliest possible date.

In addition to the forty-odd cases which we studied this winter, pepto-mangan has been used in the hospital for over two years in anæmic convalescents, with uniformly satisfactory results. In none of the cases under our observation did any untoward symptoms accompany or follow the use of this preparation. In no case did constipation, nausea, headache, or digestive difficulties follow its administration.

The results recorded here correspond with those obtained with the use of pepto-mangan by Loomis[5], Van Schaick[6], and von Ramdohr[7], of New York; Peterson, Perekhan, Doehring[8], of Chicago; Wolffe[9], of Philadelphia; Summa[10] and Bauduy[11], of St. Louis; Von Ruck[12], of Asheville, N. C.; McGuire[13], of Richmond, Va.; Frieser[14] and Pohl[15], of Vienna and Fasano[16] of Naples.

On the whole, therefore, we have found pepto-mangan a very satisfactory and efficient hematinic in secondary anæmias.

REFERENCES.

(1). Hammarsten, *Physiological Chemistry*, English Translation, Mandel, New York and London, 1901, p. 176.

(2). Bunge, *Zeitschrift f. Physiologische Chemie*, Vol. ix.

(3). Quincke, quoted by Hausermann, *Zeitschrift f. Physiologische Chemie*, Vol. xxii.

(4). White, *Materia Medica, Pharmacy, Pharmacology and Therapeutics*, 3rd Amer. Edition, Edited by Wilcox, Philadelphia, 1895, p. 182.

(5). Loomis, H. P., "The Successful Treatment of Anæmia," *N. Y. Acad. of Medicine, Section on General Medicine*, April 18, 1893.

(6). Van Schaick, The Diseases of the Blood in their Relations to Surgery, and their Treatment, *N. Y. Medical Journal*, June 2, 1900.

(7). Von Ramdohr. Results from the Administration of Iron in a Readily Assimilable Form after Gynecological Operations, *N. Y. Medical Journal*, June 26, 1897.

(8). Peterson, Perekhan, and Doehring. Experimental Reports with Gude's Pepto-Mangan. *Chicago Clinical Recorder*, 1896.

(9). Wolffs, A Clinical Report on Gude's Pepto-Mangan, Philadelphia.

(10). Summa, "The Value of Gude's Pepto-Mangan in the Treatment of. Anæmia. *N. Y. Medical Journal*, 1895.

(11). Bauduy, Observations upon the Treatment of Some Cases of Neurasthenia. *Medical Review, St. Louis, Mo.*, February 26, 1898.

(12). Von Ruck, K., The Use of Pepto-Mangan for Anæmia in Pulmonary Tuberculosis. *New York Medical Journal*, December 15, 1894.

(13). McGuire, Surgical Convalescence, with Report of Blood Count in Twenty Cases. *Virginia Medical Semi-Monthly*, 1899.

(14). Frieser, Notes on Chalybeate Therapy. The Therapeutic Value of Pepto-Mangan, Gude, Vienna, 1899.

(15). Pohl, A Contribution to the Therapeutics of Pepto-Mangan, Gude. *Aerztlicher Central-Anzeiger, Vienna*, Sept. 20, 1896.

(16). Fasano, Malarial Anæmia, Chlorosis and Rachitis. *Archivo Internazionale di Medicina e Chirurgia*, Naples, May 1, 1899.—Reprinted from the International Journal of Surgery, June, 1903.

"In the treatment of these diseases by means of drugs, and I have given all of the accepted remedies a thorough trial, and I regret to say I have been unsuccessful, except with thialion, and thialion I feel I cannot praise too highly, for in the way of medicine it has done more for my gouty patients, and when I say gout I mean all cases of uric acid poisoning, than everything else put together."—*Extract from a paper published in the New England Medical Monthly, October, 1899, by Henry S. Pole, M. D., Hot Springs, Va., Member of the Virginia State Medical Society, etc.*

Pneumonia

AND

Antiphlogistine.

In view of the large and increasing mortality rate from pneumonia when treated by the ordinary methods, it behooves every practitioner to pay some heed to the results from the use of Antiphlogistine.

Up-to-date doctors without number everywhere have long ago learned that the best and safest method of local treatment is Antiphlogistine. They, therefore, have adopted Antiphlogistine as their regular routine treatment which does not in any way interfere with internal medication.

A prominent physician recently remarked, "There was a time when nearly all the children I treated for pneumonia died. In recent years they all get well. The only change made in my treatment is that I now use Antiphlogistine in every case. Draw your own conclusions."

There are certainly some surprises in store for those not acquainted with the results following the proper application of Antiphlogistine in these cases. If the entire thoracic walls—front, sides and back, are covered with Antiphlogistine as hot as can be borne, fully an eighth of an inch thick and then covered with a good warm cotton-lined cheese-cloth jacket, results are immediately manifest. The pain and the rapid and difficult breathing are promptly ameliorated, The pulse improves, the temperature declines, the muscular and nervous systems relax, and the greatest of all remedial agents—rest and sleep—are invited and usually follow.

This description is typical of Antiphlogistine's behavior when applied in the first stage of the disease.

If these statements are true, the question is, why can any physician be found who does not use Antiphlogistine in every case? If false, why do we find 80 per cent. or more of the physicians who now look upon Antiphlogistine as an indispensable aid for their pneumonia cases, and why do you find it in every hospital in the land?

A treatment that insures such results is certainly entitled to the confidence of every practitioner. Antiphlogistine is a scientific preparation having a definite physiological action, and that its remedial value may be fully realized it should be applied with careful attention to detail. Do not try to make a small package do the work of a large package and do not apply Antiphlogistine cold, but thick and as hot as can be borne. The usual life of a dressing is twenty-four hours, but it varies, and the dressing should be removed as soon as it will peel off nicely.

You say, how does Antiphlogistine bring about such favorable results? It forms the best known method of applying moist heat continuously. By stimulating the cutaneous reflexes it causes a contraction of the deep vessels and coincidently a dilation of the superficial, which action aided by its hygroscopic virtue produces a flushing of the superficial capillaries and thus bleeds but saves the blood, consequently relieving the overworked heart and all other associated distressing symptoms.

"Many of my professional friends have used Antiphlogistine as a jacket in pneumonia and obtain excellent results. It seems to meet all requirements."

Characteristic Testimonials From Competent Observers.

"Used Antiphlogistine in a case of pneumonia in girl 5 years of age. Temperature at time of application, 104 deg. F. In 36 hours it dropped to 99 deg. F. This is the treatment for all my future cases."

"I have used Antiphlogistine in pneumonia with gratifying results, and should dislike to treat a case without it."

"I used Antiphlogistine in a case of pneumonia, patient aged 68. Applied it every 10 hours warm and thick. Patient said she experienced marked relief within 30 minutes after first dressing."

"From my experience with Antiphlogistine I regard it as an ideal dressing in pneumonia. It forms an application neither too wet nor too heavy and does not require to be changed as often as other applications."

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New York.

Sublamine in the Treatment of Parasitic Scalp Diseases.

By William S. Gottheil, M. D., Dermatologist to the City Hospital, Lebanon and Beth Israel Hospitals, New York City.

When Sublamine was introduced as a non-irritant disinfectant equal to mercuric chloride in bactericide energy, and possessing far greater powers of tissue penetration, it at once occurred to Dr. Gottheil that the drug had a most important sphere of usefulness, not only as an external antiseptic, but also as a remedy in various parasitic dermatoses and as an antiluetic. For the toxicity, causticity and irritancy of corrosive chloride limit its use in the former and make its injection in syphilis our last resort instead of the regular treatment.

Sublamine was found by Kroenig, Blumberg, Schenck, Zaufal, Paul, Sarwey and others to possess the same bactericide power as the bichloride, but to be so non-irritant that even 2 per cent. solutions can be employed if required, and to have a far greater penetration than the older drug, as it does not coagulate albumen.

During the winter of 1901-2 a ringworm epidemic broke out in a large orphan asylum to which Dr. Gottheil and Dr. George H. Fox were dermatological consultants. The matter was brought to their attention only when the epidemic had assumed alarming proportions. Some 450 out of the 900 children were affected. Many of course had only a light form, but there was a large proportion of deep infection and kerion.

The serious nature of such a state of affairs is well known. Ringworm of the scalp is not, ordinarily, a grave affection; but even under the most favorable circumstances and with the most careful treatment it lasts for months. In public practice the majority of cases are not cured at all. They go from clinic to clinic, getting now a little better and now a little worse, until puberty is reached and the malady cures itself. Meanwhile these children are excluded from school and grow up in the streets. A similar epidemic in the institution some years before had nearly led to its permanent closure.

The diagnosis was confirmed by microscopic examinations and cultures, and a laboratory was organized for both methods and the control of results. Proper isolation was enforced; and observation wards were instituted in which apparently cured patients were kept for three weeks after treatment was ceased. No case was discharged until cure had been repeatedly proved. All other necessary sanitary and therapeutic arrangements were made. 150 of the infected girls were transferred to Dr. Gottheil's skin service at Lebanon Hospital.

The patients were divided into squads. Every head was closely shaved once a week as soon as the inflammation had subsided sufficiently to permit it. Twice daily each head was thoroughly scrubbed with brush, green soap and hot water.

The remedies employed were chrysarobin, formalin, croton oil, bichloride of mercury, carbolic acid, iodine, and ethylenediamine-citrate of mercury and Sublamine in various strengths.

A most determined effort was made to have proper records kept; for here was a chance to determine by comparative tests which plan of treatment gave the best results. Dr. Gottheil was not successful in this, however. Lack of discipline and the fact that often the names of the children were unknown or imperfectly known, or interchanged, helped to create confusion. The patients were scattered in four buildings and at least a dozen wards. Lack of room necessitated incessant transfers of well and sick children. Changes in staff and servants further complicated matters. Hence the records were in a very unsatisfactory state when the epidemic was ended.

Chrysarobin was soon abandoned. It was impossible to keep the children from getting it into face and eyes, and there was a good deal of trouble with dermatitis and conjunctivitis. The diffuse brown stains on the skin doubled the time required for examination. The same objection was made to iodine. This in combination with goose grease has lately been highly recommended by Dr. Jackson, of New York, and is undoubtedly an effective preparation. The menstrum is comparatively expensive, however, for use on a large scale, and it caused coloration. At Dr. Fox's suggestion a number of cases were put upon it, but treatment was soon changed.

No definite results were obtained from salicylic acid in any form and concentration. The same is true of pure carbolic acid, followed by alcohol when too irritating. Pure formalin was used in some cases by a house physician without Dr. Gottheil's consent. It cured the patches to which it was applied, of course, but at the expense of sloughing and destruction of scalp tissue. In 10 per cent. solution, which was well borne, it did not seem to make much change in the patches.

Bichloride, Sublamine and croton oil were found sufficient for all cases. The first was employed in 1 : 1000 solution, but many could not stand its vigorous use twice daily, and often only 1 : 2000 could be used. Its effect was very slow, probably because of deficient penetration, but we persisted

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is the relief from the acute stinging pain of inflammations and eczematous eruptions about the muco-cutaneous margins when **Resinol Ointment** is applied. And a permanent cure is effected by this remedy with greater facility in all skin affections where a local application is indicated than by any other method. As a dressing for Burns, Carbuncles, etc., there is nothing approaches it.

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In *Medical News*, August 1, 1903, Dr. J. Leffingwell Hatch, of New York (formerly lecturer on Bacteriology and demonstrator of Morbid Anatomy in the University of Pennsylvania), writes of Thiocol: "My own experience with Thiocol has been quite extensive and varied. * * * In tuberculosis the night-sweats were stopped almost from the first; the fever was markedly reduced; expectoration was made easier and less purulent, while the cough became less persistent and annoying."

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affords the valuable therapeutic properties of Thiocol (anti-tubercular), Dionin (cough sedative and expectorant), and Ammon. hypophos. (reconstructive).

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Clinical Reports to Physicians

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in its use for purposes of comparison. In most cases final recourse was taken to 33 per cent. of croton oil. This was applied several times in succession until a vigorous reaction took place. Then an ordinary soothing application (usually 3 per cent salicylated oil) was used until the inflammation subsided, when the bichloride was again employed.

Of the two ethylenediamine-mercury compounds, Sublamine was more largely used. At the time the epidemic began the citrate was the only preparation obtainable; but since the properties of the two are similar they can be considered together. They are much less irritant than bichloride. All stood 1 : 1000 Sublamine very well; indeed, in obstinate cases 1 : 750 was used without trouble. Stronger solutions than that, however, gave trouble. It is possible, of course, that the shaving and scrubbing rendered the scalps hypersensitive. But Sublamine is much less obnoxious to tender or inflamed skins than bichloride and can be used in about twice the strength permissible of the latter.

Over 100 cases were treated with Sublamine. As with the other drugs, they were not selected but included cases in all stages of the infection; some had merely a single patch, whilst others were in an advanced and generalized stage of the disease. In the latter class were a number of older children who had had ringworm of the scalp for years and whom we suspected with good reason to be uncured cases from an epidemic of several years ago. They had been for months and years at Randall's Island, the city institution for orphans, and had been sent back to the asylum as cured. That this was not the case, however, is shown by the fact that some of them formed part of the contingent of chronic scalp cases that were always present in the asylum and which undoubtedly formed the nucleus of the present epidemic. Some of the cases were not cured when the epidemic ended. Dr. Gottheil believes that they belong to the small number of really incurable cases, and that their retention in the institution will lead to further trouble.

All others did very well indeed under Sublamine. Its action was more rapid than that of bichloride, as might be expected from the fact that with equal bactericide power it has greater penetration, and can be employed in much stronger solution. There can be no doubt that it was the most effective treatment employed.

Dr. Eckstein assisted in the microscopic and bacteriologic test for the presence of ringworm at the beginning of the epidemic. The astonishing fact was noted that a parasite indistinguishable from that of ringworm could be cultivated from scalps that were apparently perfectly healthy. The trichophyton was seemingly present on most or all the scalps, possibly in an attenuated or non-virulent form. Perhaps it was the usual form kept in depressed growth by prophylactic measures. The bacteriologic test of cure was therefore abandoned and only microscopic evidences relied upon. Cases in which repeated cultures had been made with negative results, and which were therefore discharged as cured gave positive cultures later, though their scalps were apparently healthy.—Abstracted from the Medical News, Oct. 17, 1903.

Gargle in Tonsilitis.

℞	Tinct. Guaici Ammon,	ʒ vi
	Tinct. Cinch. Comp.,	ʒ vi
	Hux-sal (antiseptic salt)	ʒ ii
	Pulv. Acaciæ,	q. s.
	Aquæ Distill.,	ad ℥ iv
	M. f. Mist.	

Sig. Shake the bottle and add one teaspoonful of the mixture to a wineglass of water, then use as a gargle three times times a day.

Pruritis.

℞	Hux-sal (antiseptic salt)	ʒi
	Glycerinæ,	ʒii
	Aquæ Camphor,	ad ℥iv
	M. f. Sol.	

PNEUMONIA

It is an important point in the treatment of pneumonia to reduce the dyspnea and irritating cough.

This may be done without internal medication and without disturbing the patient, by the use of Vaporized Cresolene.

Vaporized Cresolene has a marked sedative influence on all diseases of the respiratory organs attended with irritation and a spasmodic element.

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While the COUGH May be

A symptom of any one of several pathological conditions, the cough which occurs during the COLDER MONTHS is usually due to catarrhal inflammation of the trachea or larger bronchi and although **only a symptom**, it **REQUIRES ATTENTION**, as otherwise it is likely to become, secondarily, a cause of more extensive trouble. A REMEDY is indicated which will act as a gentle but STIMULATING EXPECTORANT and one which will, by its solvent properties, render less difficult the expectoration of viscid mucous secreted by the diseased mucous surfaces. Many years of practical experience have proven that

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Stands at the head of this class of remedies, and a study of its formula will at once show that it merits the high esteem in which it is held by the medical profession.

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Plain,
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Antisclerosin in Arteriosclerosis.

By Dr. S. Goldschmidt, Physician to Bad Reichenhall.

During the past few months I have had occasion to employ a remedy for which very good results in arteriosclerosis are claimed, and which is called Antisclerosin. It is composed of various blood salts, and is manufactured by W. Natterer, of Munich, who placed a quantity of it at my disposal. I have tried it altogether in thirteen cases. I selected patients with advanced arteriosclerosis, both central—sclerosis of the heart—and peripheral. The results show that the remedy is excellent, for its effects were not only symptomatic and temporary, but sometimes also permanent.

The first case was a man of 65 with marked sclerosis of heart and arteries. He complained of beating of the temples, muscae volitantes, occasional tinritus, palpitation, etc. The action of Antisclerosin was very surprising. After taking two tablets three times daily for ten days all the troublesome phenomena disappeared. The pulse showed a diminution in hardness.

Case 2.—Aged 50. Very advanced sclerosis and arhythmia of the heart; occasional pseudo-asthmatic attacks. Antisclerosin, same dose. Returned to home after fourteen days. Condition has remained satisfactory.

Case 3.—Patient confined to bed. Pulse extraordinarily hard and slow, 60 to the minute. Heart enlarged in all dimension; tone on auscultation loud and ragged. Loud murmers at all the orifices and œdema of feet. Diuresis small; no albumin. Moderate emphysema with a little catarrh. Digitalis. Eight days later, in somewhat better condition, Antisclerosin. One week later œdema of the feet had disappeared, dyspnœa had gone and patient got up from bed. Now feels very well under Antisclerosin and CO_2 baths. Cardiac murmurs remain. Heart configuration unchanged.

Case 4.—Widow of 68. Central and peripheral sclerosis, cardiac palpitation and rheumatoid pains. Antisclerosin for ten days. Marked improvement in palpitation. Objectively no change was noticeable.

Case 5.—Aged 70. Very advanced sclerosis of heart and arteries. Mitral insufficiency. Antisclerosin for 3 weeks without effect.

Case 6.—Aged 52. Peripheral arteriosclerosis. Hard pulse, of high tension, wonderfully changed by 10 days' treatment with Antisclerosin, becoming soft and of normal tension.

Case 7.—Aged 68. Stenocardiac difficulties. Had hypertrophy of the heart, peripheral and central sclerosis, ephysema of the lungs and widespread catarrh. Antisclerosin for 20 days. Since taking it there has been no stenocardia. Objectively but little change is evident.

Case 8.—Wife of the foregoing, 67. Has peripheral and central sclerosis. There is a difference between the two radial pulses. Arhythmia. Marked emphysema. Pleuritic friction sounds. Antisclerosin 10 days without effect.

Case 9.—Female, aged 68. Formerly suffered with asthma. Advanced central and peripheral sclerosis. Arhythmia. Emphysema. Angina pectoris. Four weeks' Antisclerosin had a notably mitigating effect on stenocardia. No objective improvement apparent.

Case 10—Arhythmia, central and peripheral sclerosis. Mild but distinct stenocardia. After having taken iodine preparations for a considerable time without any especial effect, he was put on Antisclerosin. Its influence on the anginous attacks was unmistakable. There was no demonstrable objective effect.

Case 11.—Very advanced sclerosis of the ear drum. Antisclerosin for 14 days without effect.

Case 12.—Neurasthenic who had arteriosclerosis. He complained of paroxysmal attacks which aroused suspicion of angina pectoris. Did not want to take the tablets at all, but finally took them distrustfully and maintained that they increased stenocardia.

Case 13.—Countess M——, 61. Sufferer for many years from arhythmia and far advanced sclerosis of the heart and arteries. Oedema of the lower extremities. Sienocardiac attacks. Sept. 10, Antisclerosin. On the 15th she had a fainting spell lasting for several minutes. When she regained consciousness amnesic aphasia had appeared. The question: Had the apoplexy any connection with the Antisclerosin? I can positively answer in the negative. On the 18th the patient indicated pains in the head and the heart Antisclerosin, which had been stopped for three days, resumed. Two days later the heart became quieter. Arhythmia was noticeably less, the cardiac contractions were much more regular, and the pains had disappeared. Ice-bag and the Leiter apparatus had been used in addition to Antisclerosin. No more complaints of stenocardia. The cerebral trouble is slowly improving.

In all cases the dose was 2 tablets thrice daily, an hour before meals or with meals. The former method should be used if the latter does not give results. Diet consisted mostly of vegetables with little or no alcohol. All kinds of baths were given.

The favorable effects were doubtless due to Antisclerosin. In some few cases the

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iodine preparations might have done as well but would have been slower in action. Iodine has besides unpleasant by-effects which prevent its use in very many cases. There were no such idiosyncratic phenomena with Antisclerosin.—Abstracted from Deutsche Praxis Zeitschrift fur praktische Arzte, No. 19, 1903.

The Treatment of Puerperal Sepsis.

By Dr. Hiram N. Vineberg, New York.

In a patient whom I had under observation a couple of years ago, and who was ill for a long time, I made the diagnosis of septic thrombosis of the pelvic veins on the right side. The patient was very seriously ill, had repeated severe rigors, followed by high temperature. The uterus behaved normally and involution progressed as it should. There was no pelvic exudate, but I could feel a round, hard cord along the infundibulo-pelvic ligament; the adnexia were apparently normal; there were no signs of peritonitis. At one time during the illness a prominent internist who saw the patient in consultation concurred in my diagnosis of pelvic phlebitis and thought he found evidences of septic endocarditis. The patient was in a precarious condition for weeks, but finally made a good recovery, the treatment consisting of the usual stimulating and nourishing agents employed to combat sepsis, together with free inunctions of Unguentum Crede. There were no external metastatic abscesses. There was no bacteriologic examination made of the uterine discharge for the reason that when the sepsis became manifest, which was rather late in the puerperium, there was practically no discharge from the uterus. I had reason to suspect a gonorrheal infection, as the husband had suffered from an acute attack of gonorrheal urethritis a short time before the wife conceived, and during the early stages of the pregnancy there was a marked erosion of the cervix with a copious mucopurulent discharge.

It may be appropriate here to say a few words in reference to the use of Collargolum or Unguentum Crede. I am in the habit of using Unguentum Crede in cases of sepsis where I can find no lesion which demands surgical intervention, or in those cases in which the gross source of infection has been removed by surgical means and the manifestations of sepsis still persist. I have gained the impression from its use that it is of some service either in aiding the system to eliminate the toxins produced or in some way counteracting their deleterious effects. Certain it is that several desperate cases in which the silver was employed by inunction ended in recovery, and it did seem to me that the favorable result was in a measure induced by the inunctions of the silver.

Before closing I desire to lay especial emphasis on the importance of watching very carefully every puerperal woman who shows the slightest elevation of temperature. If it be assumed that such elevation denotes sepsis unless some other cause unmistakably accounts for it, and the proper treatment instituted at once, then, in my opinion, it will rarely occur in private practice that a case of puerperal sepsis will be encountered in which any serious surgical intervention will be needed.—Abstracted from the Journal of Obstetrics, September, 1903.

Prof. H. Fehling, of Strassburg University, in a paper on "The Prophylaxis and Treatment of Puerperal Fever," says that operative procedure in this infection being of comparatively little use, the search for systemic remedies to neutralize the general poisoning has been unremitting.

There can be no doubt that Collargolum, intravenously administered, is of value. Sterile 2 per cent. solutions were employed, 2½ to 3 drams thereof being injected with a fine needle into a vein at the elbow-bend. With a little practice this is easily done. There was never any ill effects. The results varied; some charts showed an immediate fall in pulse and temperature, sometimes a very considerable one, and it is especially noteworthy that this was always accompanied by an improvement in the patients' condition. They slept and had better appetites. When the temperature rose again, fresh injections were made, these being often administered daily for eight or ten consecutive days. A definitive fall of temperature after one injection occurred once.

In some cases death occurred in spite of the injection. In others the fatal termination was postponed, as in a case of pyæmia with numerous pulmonary abscesses. The remedy seems to possess the power of depressing the temperature and the pulse; and it has a certain diagnostic value in addition to its good effect upon the patient.

Fehling is decidedly of the opinion that Collargolum should be employed in the treatment of puerperal fever, though further experimentation in the clinical field is desirable.—Abstracted from the Muenchener Med. Wochenschrift, No. 33, August 18, 1903.

Chronic Rheumatism in Cachaexia.

Potass. Iodid,	½ oz
Ol. Morrhuæ,	3 ozs
Tongaline,	3 ozs

M. Sig.—A teaspoonful every four hours.

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Hold Fast to That Which Is Good--In Therapeutics.

By J. J. Dooley, M. D., New York.

The combination of albumen with urine is, in every case, evidence of pathological conditions.

This fact impresses upon the mind of the progressive physician of to-day the further and additional fact that the kidney is a more important factor in diagnosis than the pulse.

While the latter may indicate certain febrile movements the former enables the physician to discover the cause or causes of such movements and thus enables him to begin at the beginning in his efforts to eradicate the disease with which he has to contend.

It is for this reason the late Professor Gross, in closing his lectures on surgical pathology, always admonished his students to "watch the kidneys from start to finish."

Flush the kidneys for the health of the body as you would flush the sewer for the health of a city or community.

This has been my motto since I began the practice of medicine, and I have followed it with much satisfaction to myself and my patients.

While I seek the remedies suited to this purpose in the pharmacopœia, I more frequently resort to Nature's remedy—Buffalo Lithia Water—which I find better suited to the majority of cases than any other therapeutic agent with which I am acquainted.

In hyperæmia of the kidneys, either active or passive, especially that form following interstitial pneumonia in which there is marked destruction of the capillaries in the pulmonary parenchyma, this water produces beneficial results which are truly amazing. Every trace of albumen quickly disappears and the normal specific gravity of the urine is promptly restored without hydraemia or thinning of the blood serum (dropsy).

I have found Buffalo Lithia Water equally effective in acute parenchymatous nephritis, especially when due to pregnancy or other functional derangements.

It also affords much relief in chronic nephritis, nephrophtisis pyelitis and renal cirrhosis. In fact it is my habit to prescribe Buffalo Lithia Water in all stages of Bright's disease.

I find that it reduces febrile disturbances in the earlier stages of the disease and insures rest and physical comfort. As the disease progresses it seems to prevent the mental depression of melancholia usually present in this trouble.

The prompt and permanent benefit following the liberal administration of Buffalo Lithia Water in malarial haematuria is truly remarkable, the absence of both blood cells and albumen being noted within a few hours.

Buffalo Lithia Water is not only a prompt eliminator of extraordinary potency in the class of kidney ailments briefly referred to, but its solvent powers in nephrolithiasis, or renal calculus and stone in the bladder, are equally great and have long been recognized by the leading physicians and surgeons throughout the civilized world.

I prefer, however, to speak of it first as a preventative in the latter class of ailments. This property in this water seems to be due to the fact that it neutralizes and eliminates uric and oxalic acids wherever found in the human system, and chemists are agreed that these elements are essential to the formation of stone in the bladder.

The amorphous renal gravel—that is, the powdery sediments which constitute the starting point and the basis of what is ordinarily called renal gravel, is rapidly dissolved by Buffalo Lithia and discharged without discomfort via the normal channels before it has had time to assume a definite concrete form or shape.

To accomplish this result, I administer this water ad-libitum and in quantity limited only by the stomach capacity and comfort of the patient.

That Buffalo Lithia Water is the most powerful solvent of organized stone in the bladder, known to the medical profession, is an incontrovertible fact and one known to the profession for more than half a century. Whatever be the character of the stone in the bladder—whether a phosphate, an oxalate or an urate—it attacks it with equal energy.

It seems to dissolve the acid-base of the stone which at first becomes quite porous and then disintegrates or falls to pieces, and the resulting detritus or debris is finally expelled from the bladder.

This theory is based on the fact that this water acts with extraordinary vigor on uric, oxalic and phosphoric acids, whether alone or in combination with other acids or basic salts.

It also attacks gall-stones with much force and aids in their elimination and expulsion from the alimentary tract.

In nervousness and insomnia due to brain fag or defective metabolism, I have found Buffalo Lithia Water of decided value, also in alcoholism and morphinism where the secretions are defective or totally suspended. In this class of ailments I attribute its good results to its property of removing from the tissues all dead cells and other waste products whose presence is undoubtedly a bar to the proper performance of many of the normal functions.

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"Imitations are at best poor substitutes and I never use them. I want the results that invariably follow the use of Glyco-Thymoline—genuine."

I have also found Buffalo Lithia Water of decided therapeutic value in certain forms of stomach indigestion where there are sour eructations, and also in intestinal indigestion when the generation of gases is a marked and disagreeable symptom. In fact I am firmly of the opinion that the good work of this valuable water begins in the stomarch where it neutralizes morbid acid secretions and paves the way to improve digestion and assimilation.

This accounts in a measure for its value as a preventative of uræmia and its sequalæ—such as nervousness, epileptic-like convulsions, maniacal manifestations and coma.

In cystitis or catarrhal conditions of the urinary bladder Buffalo Lithia Water seems to exercise a specific action by allaying all irritation and inflammation and thus securing lasting relief and comfort for the patient.

In conclusion I would impress upon the minds of the physicians two important points in connection with this water; first, get the genuine Buffalo Lithia Water; second, see that your patients drink it regularly and freely.

The Decadence of Opium.

We would not banish opium. Far from it. There are times when it becomes our refuge. But we would restrict it to its proper sphere. In the acute stage of most inflammations, and in the closing painful phases of some few chronic disorders, opium in galenic or alkaloidal derivatives, is our grandest remedy—our confidential friend. But here the application should cease; and it is just here that the synthetic products step in to claim their share in the domain of therapy. Among the latter, perhaps none has met with so grateful a reception as Antikamnia Tablets, and justly so. Given a frontal, temporal, vertical or occipital neuralgia, it will almost invariably arrest the head pain. In the terrific fronto-parietal neuralgia of glaucoma, or in rheumatic or post-operative iritis, they are of signal service, contributing much to the comfort of the patient. Their range of application is wide. They are of positive value in certain forms of dysmenorrhœa; they have served well in the pleuritic pains of advancing pneumonia and in the arthralgias of acute rheumatism. They have been found to allay the lightning, lancinating pains of locomotor ataxia, but nowhere may they be employed with such confidence as in the neuralgias limited to the area of distribution of the fifth nerve. Here their action is almost specific, surpassing even the effect of aconite over this nerve.—*National Medical Review.*

Gonorrhoeal Epididymitis.

℞ Betul-Ol. (Methyl-oleo-salicylate Co) ℥i
Ol. Amygdal. Dulc., ʒii
Misce fiat applic.

Sig. Apply to the scrotum on lint and cover with impermeable silk and a suspensory bandage. Change the dressing every two hours. The absorption of the salicylic radical is easily proved by an examination of the urine.

Chronic Dyspepsia and Phosphaturia.

℞ Syr. Acid. Glycero-phosphatis Comp (Huxley) ℥viii

Sig. One teaspoonful diluted with a wine-glass of water half an hour before meals, and

℞ Acid. Arsenosi, grain i
Pulv. Ignatiæ, " viii
Pulv. Rhei, " xxxvi
Pulv. Opii, " viii
Misce fiat capsul, No. 60.

Sig. One capsule immediately following each meal.

Fetid Breath.

℞ Hux-sal (Antiseptic Salt) grain xxv
Aquæ Dist., ℥ iii
M. f. sol.

Sig. Before using, rinse the mouth with a solution of borax in a little water, and then use the mouth wash as a gargle and to remove foul smelling buccal secretions.

Malodorous Feet.

Make a saturated solution of Hux-sal (Antiseptic Salt) 1 to 25 at temperature of 45 deg. Cent. and soak the feet for half an hour. Dry the feet and put on thin socks and apply glycerole of tannin. The treatment should be repeated for several days.

For Mercurial Ptyalism.

℞ Tinct. Myrrhæ, ʒiii
Pot. Chlorat., ʒss
Hux-sal (antiseptic salt) ʒii
Aquæ Distillatæ, ad ℥viii
Misce fiat solut.

Sig. To be used as a mouth wash every two hours to check secretion and harden the gums.

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Therapeutic Value of Iodipin.

Dr. G. Campanella confirms the excellent results obtained with iodipin in various affections by numerous investigators. A case of chronic pleurisy, following pleurisy with effusion, which showed practically no improvement under large doses of potassium iodide and painting with tincture of iodine, was completely cured by the administration of iodipin. In a case of cirrhosis of the liver, with considerable ascites in a girl of nineteen, injection of potassium iodide were ordered; but they could not be borne, and iodipin was resorted to by hypodermic injection. After a few injections, the urine increased in quantity, and the ascites gradually diminished, until it disappeared almost entirely. Another case was that of a young girl who suffered with chronic peritonitis. Potassium iodide administered internally caused gastro-intestinal disturbances; its hypodermic injection caused severe pain and restlessness. Iodipin, 25 per cent., was injected with excellent results. After the fifteenth injection the menses, which had been absent for months, returned, the ascites disappeared, the patient began to look and feel healthier and soon left the hospital entirely cured. In all 200 Gm. (7 ozs.) of iodipin were used. The fourth case was one of severe sciatica, which resisted steam baths, painting with various remedies, and the internal administration of various drugs. The man was unable to work or move. The sciatica yielded to iodipin. In the author's opinion, iodipin is superior to the iodides and is particularly valuable in chronic inflammation of all serous membranes.—Gazz. degli Ospedali, No. 56, 1903.

Ichthalbin in Enteritis.

Ichthalbin acts both as an alterative and as an intestinal disinfectant. Its great value in chronic intestinal catarrh is commented upon by Dr. Porcelli, of the Ospedale Consorziale in Bari. The cases to which the ichthalbin was administered presented well defined symptoms of chronic enteritis; borborygmi, tympanites, pain in the bowels, irregular liquid discharges, etc. At the beginning of the treatment a mild laxative was administered and the diet consisted of bouillon, eggs and milk. The medicinal treatment consisted in the administration of ichthalbin, 5 to 6 grains, in pill form, every four hours. If the patient showed signs of fever, quinine hydrochlorate in small doses was given in addition. The beneficial results of the treatment were soon evident; after the first few doses the evacuations became less irregular and soon after they became of a more normal consistence, contained no mucus, etc. After ten to fifteen days' treatment both the subjective and objective condition became markedly improved.

The author also noticed the efficacy of ichthalbin in tuberculous enteritis. There was no definite effect on the tuberculosis itself, but the diarrhea could be diminished. This was the case even in several patients suffering with miliary tuberculosis. During the treatment the urine was tested for sugar and albumin, but none were found. The author also mentions two cases of distinct meteorismus with intestinal paralysis, in which all laxatives failed, but ichthalbin proved successful. One patient, a man of 40, suffered with a severe acute gastro-enteritis, with severe general symptoms, meteorismus, pain in the right iliac fossa, etc. Energetic cathartics had no effect. Two drams of ichthalbin administered for two days in pill form removed the pain, the meteorismus, and the restlessness, which at night made sleep impossible. In order to move the bowels, enemata were also resorted to, but there is no doubt in the author's mind that the rapid improvement was due to the ichthalbin.—(Reichs-Medizinal Anzeiger, No. 17, 1903.)

A New and Valuable Hypnotic.

Under the above title, Professor Roberts Bartholow contributes an editorial article to the N. Y. Med. Jour. of Sept. 19, 1903, in which he calls attention to the new hypnotic veronal. He says: "All the evidence shows that it [veronal] effects its work without changing the character of the blood or causing any disturbance of the respiratory function. In addition, it seems to have a considerable range of action, being useful in ordinary sleeplessness, and meeting with a tolerable degree of certainty the more violent resistance of hysterical psychoses and acute mania. These merits, considering the disappointing results we have had with new hypnotics, make veronal an object worth study and careful observation."

Though used alone by other clinicians, the author thinks it would prove more useful if used in combination, and he recommends a combination with trional.

He concludes: "We think these two drugs [veronal and trional] will appeal to the minds of our readers as logical allies, capable of producing better results together than either used alone. In fact, from the experience at hand, we entertain little doubt of the utility of combining veronal and trional in the proportion of two to one. Both have a cumulative action, which shows itself in a gentle and continuous somnolence, without any toxic appearances; the remedial effects of this drowsiness are, in

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many cases, inestimable. We advise taking advantage of this property by beginning with a full dose, 10 grains of veronal to 5 of trional, and continuing with smaller doses when the cumulative action appears. It would be rash to say that this forms an ideal hypnotic, but we believe without hesitation that it brings us a step nearer the goal of that desirable fruition."

Further Experience with Bromipin

Dr. Honigschmied reports several additional cases (see Archives, April, 1903, p. 136), in which he used bromipin with striking results. One case was that of a run-down, sickly anemic woman, suffering with gastric ulcer, chronic endometritis, and leucorrhea. Attempts to take food were followed by vomiting; the latter, however, also came on spontaneously, and occasionally the vomited matter consisted of pure blood. She also had frequent fainting spells. Other symptoms were insomnia, constipation, palpitation of the heart with great weakness, and thready pulse. The author prescribed good sherry wine as a cardiac stimulant, and for the vomiting he gave cocaine hydrochlorate and heroin. Though continued for four days, the vomiting did not cease, and the other symptoms were but slightly improved. The extreme palpitation of the heart and the insomnia were particularly distressing. The author then had recourse to bromipin, of which he administered, *per rectum*, half an ounce twice a day. On the very next day the cardiac palpitation moderated and the patient was able to sleep. After eight days' treatment the palpitation was gone, the pulse became stronger and fuller, the vomiting less frequent, and the patient was enabled to partake of nourishment. Ichthoform, 15 grs. three times a day, had a good effect in increasing the appetite and aiding digestion. The author says that he tried the bromipin in several other cases of nervous palpitation with very good results. As a rule, 8 ozs. of bromipin, administered as above, were necessary to produce a permanent effect—or one lasting a considerable length of time—on the palpitation. After a rectal injection of bromipin, the patient should remain in bed, as otherwise the medicament may "come out," and this may occur even half an hour or an hour after the injection.

The author reports, further, a case of neurasthenia, a case of epilepsy, and two cases of climacteric melancholy. Only in one case of the latter did the bromipin fail to produce a definite result. In all the other cases the results were extremely gratifying.

In conclusion, the author recommends bromipin very highly as superior to the bromides and free from the danger of causing bromism; but he advises to start at once with high doses—4 or 5 drams, whether given per os or rectally.—Allg. Wiener mediz. Zeitung, No. 36, 1903.

Rational Treatment of Gout.

Although there is a good deal of analogy between gout and acute rheumatism, it is generally admitted by modern physicians that uric acid constitutes the active agency of gout, while lactic acid is inherent to rheumatism. Referring to the diagnosis of gout only, the following symptoms are worth mentioning: Gastritis, enteritis, hemorrhoids, migraine, neuralgias, sciatica, lumbago, ocular inflammations, varicose veins, nephritis, gravel, and we may add pulmonary catarrh in the aged. As can be readily understood, gout is in the main an affection of the stomach, liver, pancreas and kidneys. Hence the necessity of instituting at once a treatment regulating the functions of digestion and assimilation. This is readily accomplished through the persistent and systematic administration of Kutnow's Powder, two or three times a day, an hour before meals. This preparation corrects the acidity of the stomach, and regulates the liver, while acting on the kidneys. Special attention must be paid also to the diet, without losing sight, however, of the fact that it is always unwise to starve the patient to death. Malt liquors are to be avoided, but red wine at meals is beneficial. The milk diet, so much advocated, is also objectionable in many cases. Under the pretense that gout is eminently a disease of the well-to-do, meat is generally forbidden; yet meat well cooked can do no particular harm if sparingly used. The administration of Kutnow's Powder will permit to feed the patient, providing proper care is taken of the idiosyncrasies.

"Thialion performs a four-fold function, all of which tend to help the patient. *First*, it acts thoroughly on the bowels, increasing peristalsis. *Second*, it relieves the torpid condition of the liver, increasing the flow of bile. *Third*, it acts on the kidneys, increasing the quantity of urine voided, and *Fourth*, it eliminates the uric acid from the body."—Extract from a paper published in the National Medical Review, Washington, D. C., November. 1899, by William Porter, M. D., St. Louis, Mo., Professor of Physical Diagnosis and Diseases of the Chest, at the Beaumont Medical College; ex-President of the Mississippi Valley Medical Association; formerly Assistant at the Golden Square (London) Throat and Chest Hospital; Assistant to the late Morell MacKenzie.

CONCLUSIVE EVIDENCE.

Character *of* Commendations.

Woman.

The subject of uterine disease reminds me that during the past six months I have had my attention drawn to a remedy that goes under the name of Dioviburnia, the formula of which is given, and having read the emphatic indorsement of Drs. J. B. Johnson, L. Ch. Boisliniere and H. Tuholske, three of the most eminent professors and practitioners of the city, I was induced to give Dioviburnia a fair and thorough trial, and I am convinced that in this product we have a valuable addition to our armamentarium in our battle against the enemies of the noblest work of God—Woman.

Editorial by the late I. N. Love, M. D., in the "Medical Mirror."

Pains of Dysmenorrhea.

I have given Dioviburnia a fair trial and found it useful as an uterine tonic and antispasmodic, relieving the pains of dysmenorrhea and regulating the uterine functions. I feel authorized to give this recommendation of Dioviburnia, as it is neither a patented nor a secret medicine, the formula of which has been communicated freely to the profession.

L. Ch. Boisliniere, M. D.
Late Professor of Obstetrics, St. Louis Medical College.

Great Benefit in Dysmenorrhea.

I have used Dioviburnia quite a number of times, sufficient frequent to satisfy myself of its merits. It is of unquestionable benefit in painful dysmenorrhea; it possesses antispasmodic properties which seems to be exerted especially on the uterus.

Dr. H. Tuholske.
Prof. of Clinical Surgery and Surgical Pathology, Washington University; Prof. of Surgery, Post-Graduate School St. Louis.

Neurosine vs. Epilepsy.

A Doctor's Epileptic Son.

My son is doing splendidly; has had only one paroxysm in five months, which I am confident was caused by reducing the dose of Neurosine. I am determined to persevere in this treatment. Am having many inquiries from physicians as to the merits of Neurosine and I recommend it to those who have cases of epilepsy.

Dr. G. W. Games, Hickory Flat, Ky.

I have used your Neurosine (Dios) in a number of cases of epilepsy with very satisfactory results. I know of no remedy which is so effective as Neurosine.

Dr. A. C. Dogge, Helena, Mont.

I have been prescribing Neurosine (Dios) during the past eight or ten years with most excellent results, especially in epilepsy and neurasthenia, and I cheerfully recommend my brethren in the profession to give it a trial.

Dr. W. Hill Jude, Bloomington, Ill.

I have been using Neurosine (Dios) in my practice for some time in all nervous disorders with the happiest effects. I regard it as the very best preparation for that dreadful malady known as epilepsy. Physicians can prescribe it with greatest confidence in all nervous troubles. Dr. G. R. Duncan, Fall Branch, Tenn.

Full size bottle *Free* to Physicians not familiar with the merits of NEUROSINE and DIOVIBURNIA, they paying express.

DIOS CHEMICAL COMPANY,
St. Louis, Mo.

NORTH CAROLINA COUNTY MEDICAL SOCIETIES.

It is with pleasure we add this month the names of the officers of sixteen County Medical Societies reported as organized in North Carolina since last month's JOURNAL went to press. We now (Nov. 28) have reported as organized ·57 county societies, and those of the Council who have not completed their work are actively engaged and expect to report additions from time to time

The councillors comment most pleasantly upon the uniform cordiality of the reception given them by the local profession in the various counties visited by them and the readiness with which they have entered into the spirit of organization.

The following is the list as reported to date:

Alamance County Society—President, Dr. George W. Long, Graham; Secretary, Dr. W. R. Goley, Graham.

Anson County Society.—President, Dr. J. M. Dunlap, Ansonville; Secretary, Dr. J. M. Covington, Jr., Wadesboro.

Ashe County Society—President, Dr. J. W. Colvard, Jefferson; Secretary, Dr. J. L. Ballou, Crumpler.

Beaufort County Society—President, Dr. J. T. Nicholson, Washington; Secretary, Dr. Ira M. Hardy, Washington.

Buncombe County Society.—President, Dr. John Hey William, Asheville; Secretary, Dr. Gaillard S. Tennent, Asheville.

Brunswick County Society—President, Dr. E. G. Goodman, Elpaso; Secretary, Dr. J. A. Dosher, Southport.

Burke County Society—President, Dr. George H. Moran, Morganton; Secretary, Dr. I. M. Taylor, Morganton.

Catawba County Society—President, Dr. J. R. Campbell, Newton; Secretary, Dr. George H. West, Newton.

Caldwell County Society—President, Dr. A. A. Kent, Lenoir; Secretary, Dr. W. P. Ivey, Lenoir.

Caswell County Society—President, Dr. H. H. Dodson, Milton; Secretary, Dr. S. A. Malloy, Yanceyville.

Cabarrus County Society—President, Dr. W. H. Lilly, Concord; Secretary, Dr. F. O. Rogers, Concord.

Cherokee-Graham County Society.—President, Dr. J. F. Abernathy, Murphy; Secretary, Dr. M. T. Maxwell, Murphy.

Cleveland County Society—President, Dr. T. E. McBrayer, Shelby; Secretary, Dr. S. S. Royster, Mooresboro.

Columbus County Society—President, Dr. N. A. Thompson, Whiteville; Secretary, Dr. J. C. Hall, Boardman.

Cumberland County Society—President, Dr. T. D. Haigh, Fayetteville; Secretary, Dr. John D. McRae, Fayetteville.

Davie County Society—President, Dr. M. D. Kimbrough, Mocksville; Secretary, Dr. W. C. Martin, Mocksville.

Davidson County Society — President, Dr. C. A. Julian, Thomasville; Secretary, Dr. D. J. Hill, Lexington.

Duplin County Society—President, Dr. John M. Faisons, Faisons; Secretary, Dr. Ben. R. Graham, Wallace.

Durham County Society—President, Dr. A. G. Carr, Durham; Secretary, Dr. G. H. Ross, East Durham.

Edgecombe County Society—President, Dr. R. L. Savage, Conetoe; Secretary, Dr. S. N. Harrell, Tarboro.

Forsythe County Society—President, Dr. H. S. Lott, Salem; Secretary, Dr. R. D. Jewett, Winston.

Franklin County Society—President, Dr. J. E. Malone, Louisburg; Secretary, Dr. S. P. Burt, Louisburg.

Gaston County Society—President Dr. R. M. Reid, Gastonia; Secretary, Dr. L. U. Glenn, McAdensville.

Granville County Society — President, Dr. S. D. Booth, Oxford; Secretary, Dr. G. T. Sikes, Grissom.

Greene County Society—President, Dr. Albert West, Speight's Bridge; Secretary, Dr. G. C. Edwards, Hookerton.

Guilford County Society—President, Dr. M. T. Fox, Guilford College; Secretary, Dr. Thos. R. Little, Greensboro.

Halifax County Society.—President, Dr. Jno. A. Collins, Enfield; Secretary, Dr. A. S. Harrison, Enfield.

Harnett County Society—President, Dr. W. M. Harper, Dunn; Secretary, Dr. O. L. Dunning, Dunn.

Haywood County Society — President, Dr. J. F. Abel, Waynesville; Secretary, Dr. J. Howell Way, Waynesville.

Henderson-Polk County Society—President, Dr. J. G. Waldrop, Hendersonville; Secretary, Dr. A. B. Drafts, Hendersonville.

Iredell-Alexander County Society—President, Dr. S. W. Stevenson, Mooresville; Secretary, Dr. J.E. McLaughlin, Statesville.

Jackson County Society.—President, Dr. J. M. Candler, Dillsboro; Secretary, Dr. Geo. P. Edwards, Sylva.

Johnson County Society—President, Dr. G. J. Robinson, Smithfield; Secretary, Dr. Etheldred Hooks, Smithfield.

Lincoln County Society—President, Dr. L. A. Crowell, Lincolnton; Secretary, Dr. J. S. Wise, Lincolnton.

Madison County Society—President, Dr. J. H. Baird, Mars Hill; Secretary, Dr. W. J. Weaver, Marshall.

McDowell County Society—President,

Dr. B. A. Cheek, Marion; Secretary, Dr. G. S. Kirby, Marion.

Mecklenburg County Society—President, Dr. Henry Q. Alexander, Davenport; Secretary, Dr. Parks M. King, Charlotte.

Moore County Society—President, Dr. W. A. Monroe, Sanford; Secretary, Dr. Gilbert McLeod, Carthage.

Nash County Society—President, Dr. J. T. Strickland, Nashville; Secretary, Dr. R. B. Miller, South Rocky Mount.

New Hanover County Society—President, Dr. T. S. Burbank, Wilmington; Secretary, Dr. E. J. Wood, Wilmington.

Orange County Society—President, Dr. J. H. Manning, Chapel Hill; Secretary, Dr. C. D. Jones, Hillsboro.

Person County Society—President, Dr. C. G. Nichols, Roxboro; Secretary, Dr. J. A. Wise, Roxboro.

Randolph County Society—President, Dr. S. A. Henley, Asheboro; Secretary, Dr. C. C. Hubbard, Worthville.

Richmond County Society.—President, Dr. J. M. Ledbetter, Rockingham; Secretary, Dr. A. C. Everett, Pegues.

Robeson County Society—President, Dr. J. D. McMillan, Lumberton; Secretary, Dr. L. R. Kirkpatrick, Maxton.

Rowan County Society—President, Dr. J. S. Brown, Salisbury; Secretary, Dr. I. H. Foust, Salisbury.

Rutherford County Society—President, Dr. T. B. Twitty, Rutherfordton; Secretary, Dr. E. B. Harris, Rutherfordton.

Sampson County Society—President, Dr. R. E. Lee, Clinton; Secretary, Dr. G. L. Sikes, Salemberg.

Scotland County Society—President, Dr. D. M. Prince, Laurinburg; Secretary, Dr. A. W. Hamer, Laurinburg.

Stokes County Society—President, Dr. A. G. Jones, Walnut Cove; Secretary, Dr. T. T. Watkins, Walnut Cove.

Swain County Society.—President, Dr. James H. Teague, Whittier; Secretary, Dr. —— Holt, Cherokee.

Transylvania County Society—President Dr. W. M. Lyda, Penrose; Secretary, Dr. Ed. S. English, Brevard.

Union County Society—President, Dr. R. Armfield, Marshville; Secretary, Dr. H. D. Stewart, Monroe.

Vance County Society—President, Dr. R. J. Gill, Henderson; Secretary, Dr. G. A. Coggeshall, Henderson.

Wake County Society.—President, Dr. J. J. L. McCullers, McCullers; Secretary, Dr. H. G. Utley, Apex.

Wayne County Society—President, Dr. M. E. Robinson, Goldsboro; Secretary, Dr. W. H. Cobb, Jr., Goldsboro.

Wautaga-Mitchell County Society—President, Dr. J. W. Jones, Boone; Secretary, Dr. McD. Little, Horton.

Wilson County Society—President, Dr. C. E. Moore, Wilson; Secretary, Dr. J. W. Lamm, Lucama.

Yancey County Society—President, Dr. J. L. Ray, Burnsville; Secretary, Dr. Chas. P. Edwards, Bald Creek.

Ichthargan in Gonorrhea of Females.

Dr. Gustav Woyer has used ichthargan in a number of cases of recent gonorrhea; in none of the cases had the infection spread to the adnexa. The urethritis was treated by irrigation through a catheter with solutions of ichthargan, 1 : 5000 and 1 : 1000; besides, small suppositories were inserted (ichthargan, $\frac{1}{20}$ grn., cacao butter, 7½ grn.). In gonorrheal infection of the bladder, the author used irrigations with solutions ranging between 1 : 10000 and 1 : 8000, and also instillations with solutions ten times as strong. In severe colpitis, the vagina was irrigated with solutions of 1 : 2000; a tampon soaked in a 2 to 4 per cent. solution was then introduced and left over night. The same strength solutions were employed in cervical gonorrhea. The author was very much gratified with the results, especially in gonorrheal cystitis.—Klin.-therap. Woch, 1903, No. 18.

An Efficient Galactagog.

℞ Glycerole of the Compound Acid Glycerophosphates (Huxley) ʒ iv
Distilled Water add ʒxvi
M. F. Solut.

Sig. One tablespoonful four times daily. Each dose contains exactly four grains of the acid glycero-phosphates of soda, lime, potash, iron and manganese in the exact physiological proportions laid down by Huxley, with a 250th part of a grain of strychnine. It is pleasant to take, and is the most reliable of the glycero-phosphate preparations. Under the influence of this solution and suitable diet, the lacteal secretions are increased without fatigue to the mother. The treatment should be continued during lactation for the first three months at least.

Orchitis (For Local Application).

℞ Betul-ol. (Methyl-oleo-salicylate Co) ʒvi
Guaiacol, ʒi
Lanoline (Anhydrous) ℥i

The painful symptoms may also be treated internally with large doses of quinine.

"Expectation becomes realization in all cases of localized inflammation where Antiphlogistine is applied."

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an acceptable and soothing nutrient. It gives the greatest amount of food energy with the least labor for the digestive organs. It is soothing to an irritated stomach when other foods cannot be tolerated. Owing to the process of manufacture the product is partially predigested and thoroughly sterilized. The rapidity with which it is absorbed gives the stomach walls a longer period of rest than can be secured through the use of ordinary nutrient agents.

It has been known and prescribed for years by many prominent Physicians. It presents an appetizing appearance and a tempting odor. It is a decided change from the ordinary delicacies for the sick room. It is enthusiastically welcomed, as the average layman knows the value of the juice of the clam as beverage, as a strengthening and tonic in its effect, both to the stomach and the nervous system. An especially attractive feature about **BURNHAM'S CLAM BOUILLON** consists in the fact that it is bottled in glass, without any preservative whatever, being sold in pints and half pints. This assures not only cleanliness and convenience in the serving, but perfect purity and freshness while using in the sick room. All the leading apothecaries and grocers sell it.

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Gestation.

Accidents Prevented.—The rule of many physicians is to administer Dioviburnia in teaspoonful doses, four times a day, one week before the time for periods, during the last three months of gestation. Experience has convinced them that Dioviburnia not only prevents miscarriage, but also facilitates parturition. To obtain satisfactory results, great care should be taken to *avoid substitution.*

Leucorrhea.

I find Aletris Cordial Rio to be an excellent and palatable preparation. I have used it in cases of dysmenorrhea, irritable ovary, uterine congestion, leucorrhea, and endometritis, with the best results. In a case of irritable ovary that had resisted all treatment for four years, I prescribed Aletris Cordial Rio, and after taking for four days the pain was entirely relieved.—T. R. Dice, M. D., Utica, Mo.

Synovitis.

Used successfully in cases of synovitis, whatever the orignal cause may be.

℞ Chloral. Hydrat.	ʒiv
Hux-sal (antiseptic salt)	ʒi
Distilled Water,	ad 1 pint

Sig. The solution should be used hot. Saturate layers of lint with the solution and cover with oil silk. Change the dressing every hour.

A Glycerine Tonic in Neurasthenia.

℞ Tinct. Colomb.	℥i
Ext. Taraxici Fluid,	℥i
Syr. Glycero-phosphatis Comp. (Huxley)	℥vi
Vin. (any sweet wine)	℥xvi

M. Ft. Mist.

Sig. One teaspoonful diluted with water before meals.

Senile Debility.

℞ Tr. Nucis Vom.,	ʒiv
Acidi. Phosph. Dil.,	℥i
Syr. Glycero-phosph. Comp. (Huxley)	ad ℥vi

M. Ft. Syrupus.

Sig. One teaspoonful before each meal, or four times daily.

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Hyoscin Hydrobromate	" 1-200
Narkine (Tilden's)	" ss

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Glycosine Phosphate is a compound elixir of certain of the phosphates and digestive ferments together with phosphoric acid and glycerine, (see formula), based upon the teachings of Professors Dusart and Robin of the University of Paris.

As it acts by stimulating and promoting nutrition, it is indicated in all wasting diseases, or diseases characterized by malnutrition, nervous debility, and weakened activity of the functions of the various organs of the body.

It is especially indicated, and its use is followed by brilliant results, in three classes of cases.

First Class. Indigestson in its various forms. For this class of troubles, physicians give it a strong endorsement THE INDIGESTION OF CONSUMPTIVES AND ALCOHOLICS IS GREATLY BENEFITED BY ITS USE.

Second Class. Elderly people who are losing mental and physical vigor. To these, Glycosine Phosphate by its power to increase nutrition, restores muscular strength and nerve energy. IN THIS CLASS ITS RESULTS (BY PROLONGED USE) ARE QUITE REMARKABLE.

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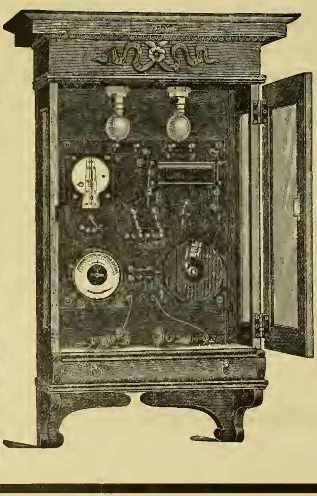

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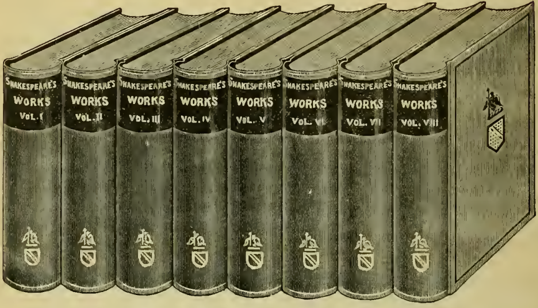

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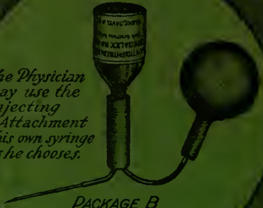

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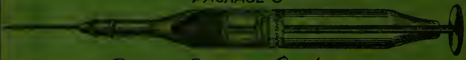

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